SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE

A THESIS SUBMITTED TO THE BABA FARID UNIVERSITY OF HEALTH SCIENCES, FARIDKOT (PUNJAB)

FOR THE AWARD OF DEGREE OF

DOCTOR OF MEDICINE

IN

MEDICINE

BY

DR. ISHAN MITTAL

SUPERVISOR

DR. HARMEET PAL SINGH DHOORIA

DEPARTMENT OF MEDICINE

DAYANAND MEDICAL COLLEGE AND HOSPITAL

LUDHIANA
(MAY, 2021)

DECLARATION

I declare that the thesis entitled "**SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE**" has been prepared by me under the guidance of **Dr. Harmeet Pal Singh Dhooria**, Associate Professor, Department of Medicine, Dayanand Medical College and Hospital, Ludhiana. No part of this thesis has formed the basis for the award of any degree previously.

_____

Dr. Ishan Mittal
Department of Medicine
Dayanand Medical College & Hospital
Tagore Nagar
Ludhiana-141001
Punjab.

Date:

CERTIFICATE

I certify that **Dr. Ishan Mittal** has prepared his thesis entitled "**SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE**" for the award of degree of M.D in Medicine of Baba Farid University of Health Sciences, under my guidance. He has carried out the work at the Department of Medicine, Dayanand Medical College & Hospital, Ludhiana. The data collected in this thesis is genuine and the work has been carried out by the candidate himself.

Supervisor

Dr. Harmeet Pal Singh Dhooria
Associate Professor
Department of Medicine
DMC&H, Ludhiana

Co- supervisor

Dr. Vikas Makkar
Professor & Head
Department of Nephrology
DMC&H, Ludhiana

Dr. Akashdeep Singh
Professor & Head
Department of Pulmonary Medicine
DMC&H, Ludhiana

Date:

.

ENDORSEMENT BY THE HEAD OF THE DEPARTMENT AND PRINCIPAL

This is to certify that the thesis entitled "**SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE**" is a bonafide research work done by **Dr. Ishan Mittal** under the guidance of **Dr. Harmeet Pal Singh Dhooria**, Associate Professor, Department of Medicine, Dayanand Medical College & Hospital, Ludhiana.

Head of Department **Principal**

Dr. Dinesh Gupta
Professor & Head
Department of Medicine
DMCH, Ludhiana

Dr. Sandeep Puri
Principal
DMCH, Ludhiana

Date:

COPYRIGHT

Declaration by the Candidate

I hereby declare that the Baba Farid University of Health Sciences, Faridkot, shall have the rights to preserve, use and disseminate this thesis in print or electronic format for academic / research purpose.

Dr. Ishan Mittal
Department of Medicine
Dayanand Medical College & Hospital
Tagore Nagar
Ludhiana-141001
Punjab.

Date:

© Baba Farid University of Health Sciences,

Faridkot

Dedicated to

my

Family

&

Teachers

ACKNOWLEDGEMENT

*I am highly grateful to the **Almighty** without whose blessings no work can be conceived, much less completed. HIS presence we feel at each and every step of life. He's the one who holds our hand and guides us through everything.*

I take this opportunity to thank all those who have been helping me in the successful completion of this work.

*With deep sense of gratitude, I wish to convey my thanks to my esteemed teacher and supervisor **Dr. Harmeet Pal Singh Dhooria**, Associate Professor, Department of Medicine, DMC&H, Ludhiana who has been most helpful and supportive throughout my tenure. His able and mature guidance, ever willing help made the assigned task simpler. He has always been an epitome of excellence for me.*

*It is with great reverence and profound pleasure that I acknowledge the valuable suggestions, scholarly guidance and constant encouragement rendered by my co-supervisors **Dr. Vikas Makkar**, Professor and head, Department of nephrology and **Dr. Akashdeep Singh**, Professor and head, Department of Pulmonary medicine, DMC&H, Ludhiana. An opportunity to learn from them has been one of special things that this work provided. I am really indebted to them for being so supportive throughout. I take great pride in expressing my gratitude to them.*

*Words are woefully inadequate to express my sense of gratitude to my grandfather **Mr J.P Goel** and my parents **Mr. Deepak Mittal** & **Mrs. Priya Mittal,** for their love, selfless sacrifices, unfailing attention to my needs and blessings that have made me whatever I am today.*

*No words are enough to thank my brothers **Siddharth Mittal** & **Gautam Mittal** whose care, affection, timely help and encouragement have been a constant source of inspiration throughout.*

My thanks to colleagues & friends ***Dr. Arpit Varshney, Dr. Rajneesh Bains, Dr. Ujjwal Mahajan, Dr. Uday Partap Singh, Dr. Kapil Dev, Dr. Twinkle Goyal, Dr. Anureet, Dr. Navjot, Dr. Taniya, Dr. Anchal***

And my seniors ***Dr. Pawan Kumar, Dr. Kritharth, Dr. Yuganshu Gupta, Dr. Jasvinder Singh, Dr. Manvir Singh*** *and all my juniors for their brilliant company in this journey. They have been an invaluable support day in, day out for the entire course of work.*

Thanks to all the patients who have been a part of this study and DMCH staff & residents who made this uphill task possible.

A Special Thanks to ***Mrs. Namita, Mrs. Niharika*** *&* ***Mr. Naveen Bhatia,*** *Research & Development centre for their efforts.*

Dr. Ishan Mittal....

ABBREVIATIONS

ABG	Arterial blood gases
ADPKD	Autosomal dominant polycystic kidney disease
AER	Albumin excretion rate
AFB	Acid fast bacilli
AHI	Apnea-hypoxia index
APLA	Antiphospholipid antibody
APO	Acute pulmonary edema
ARDS	Acute respiratory distress syndrome
BAL	Bronchoalveolar lavage
BIPAP	Bilevel positive airway pressure
BNP	Brain natriuretic peptide
CAP	Community acquired pneumonia
CG	Cockcroft Gault
CGN	Chronic glomerulonephritis
CHF	Congestive heart failure
CIN	Chronic interstitial nephritis
CKD	Chronic kidney disease
COAD	Chronic obstructive airway disease
CPAP	Continuous positive airway pressure
CRF	Chronic renal failure
DM	Diabetes mellitus
E.coli	Escherichia coli
ECG	Echocardiography
ESRD	End stage renal disease
GFR	Glomerular filtration rate
HAP	Hospital acquired pneumonia
HCAP	Healthcare-associated pneumonia
HIV	Human immunodeficiency virus
HTN	Hypertension

KDIGO	Kidney disease improving global outcome
LTBI	Latent tubercular infection
LV	Left ventricular
LVH	Left ventricular hypertrophy
MDRD	Modification of diet in renal disease
MDR-TB	Multi drug resistant tuberculosis
mPAP	Mean pulmonary artery pressure
mPAWP	Mean pulmonary artery wedge pressure
MRSA	Methicillin resistant Staphylococcus aureus
NSAID	Nonsteroidal anti-inflammatory drugs
OSA	Obstructive sleep apnea
PH	Pulmonary hypertension
RWMA	Regional wall motion abnormality
TB	Tuberculosis
UPCR	Urinary protein creatinine ratio

ABSTRACT

Introduction: Kidney disease can affect the lungs by different mechanisms and can adversely affect the outcome of these patients. **Objectives:** To study the spectrum of pulmonary involvement in patients of chronic kidney disease.

Methods: This cross-sectional study was carried out on patients admitted in the Department of Medicine and it's Allied Specialties of Dayanand Medical College and Hospital, Ludhiana over a 15 months period. Diagnosed patients of CKD stage 3, stage 4, stage 5ND and stage 5D who were admitted with respiratory complaints and in whom a respiratory diagnosis was established during hospital stay were enrolled for the study.

Results: Mean age of the study group was 60.22 ± 11.01 years with male: female ratio of 1.6:1. Most common respiratory manifestation in our study was pulmonary edema which was seen in 126 (69.2%) patients, followed by pleural effusion in 116 (63.7%) patients, pneumonia in 60 (32.9%), pulmonary koch's in 2 (1.1%), worsening of pre-existing COAD in 13 (7.1%) patients and pulmonary hypertension was present in 46 (27.5%) patients. In our study, pulmonary edema was more common among CKD stage 5D patients who were not compliant to maintenance dialysis. Overall 87 patients (52.0%) had LV dysfunction which was more common in patients with pulmonary edema. Out of 116 patients with pleural effusion, 80 patients had pleural effusion due to fluid overload and rest 36 patients had exudative pleural effusion. Most common cause of exudative pleural effusion was parapneumonic in 26 patients, followed by tubercular in 4, empyema in 3 and uraemic in 3 patients.

Conclusion: Patients of CKD can present with varied respiratory manifestations. Early detection and management of these presentations can significantly improve the outcome in these patients.

Keywords: Chronic kidney disease, pulmonary edema, pleural effusion, tuberculosis.

TABLE OF CONTENTS

S. NO.	TOPIC	PAGES
I	INTRODUCTION	1-3
II	AIMS AND OBJECTIVES	4
III	REVIEW OF LITERATURE	5-31
IV	MATERIAL AND METHODS	32-34
V	OBSERVATIONS AND RESULTS	35-81
VI	DISCUSSION	82-92
VII	SUMMARY AND CONCLUSION	93-95
VIII	BIBLIOGRAPHY	96-105
	APPENDICES – I - PROFORMA - MASTER CHART	
	APPENDICES – II - APPROVAL LETTER OF THESIS PLAN - THESIS PLAN	

LIST OF TABLES

Table No.	Title	Page No.
1	Prevalence of CKD in India according to various studies	6
2	Categories of CKD by the level of GFR	8
3	Categories of CKD by the level of albuminuria	8
4	Recommended doses of first line drugs in chronic kidney disease (CKD)	26
5	Age wise distribution of the cases	35
6	Sex wise distribution of cases	36
7	Etiology of CKD	37
8	Duration of chronic kidney disease	38
9	Stages of chronic kidney disease	39
10	Distribution of patients on maintenance dialysis	40
11	Distribution of frequency of maintenance dialysis advised	41
12	Distribution of CKD stage 5D patients to compliance to dialysis	41
13	Presenting complaint of the cases	42
14	Various co-morbidities of the patients	43
15	Chest X-ray findings of patients	44
16	CT scan findings of patients	45
17	Different respiratory manifestations of chronic kidney disease patients in our study group	46
18	Comparison of parenchymal manifestations between patients on and not on maintenance dialysis	48
19	Comparison of parenchymal manifestations between patients with different stages of CKD	49

20	Comparison of parenchymal manifestations between patients of CKD stage 5D with and without compliance to dialysis	50
21	Comparison of parenchymal manifestations between patients with duration of CKD	51
22	Organisms isolated in sputum analysis in patients of pneumonia	52
23	Comparison of pulmonary and extrapulmonary tuberculosis between patients on and not on maintenance dialysis	53
24	Comparison of pulmonary and extrapulmonary tuberculosis between patients with different stages of CKD	53
25	Comparison of pulmonary and extrapulmonary tuberculosis between patients of CKD stage 5D with and without compliance to dialysis	54
26	Comparison of pulmonary and extrapulmonary tuberculosis between patients with duration of CKD	54
27	Comparison of left ventricular function between patients of pulmonary edema and patients without pulmonary edema	55
28	Comparison of type of left ventricular dysfunction between patients of pulmonary edema and patients without pulmonary edema	56
29	Grades of left ventricular systolic dysfunction in patients of pulmonary edema	57
30	Grades of pleural effusion	58
31	Site of pleural effusion	59
32	Types of pleural effusion	60

33	Etiology of pleural effusion	61
34	Comparison of etiology of exudative pleural effusion between patients on and not on maintenance dialysis	62
35	Comparison of transudative pleural effusion between patients on and not on maintenance dialysis	64
36	Comparison of etiology of exudative pleural effusion between patients with different stages of CKD	65
37	Comparison of transudative pleural effusion between patients with different stages of CKD	66
38	Comparison of etiology of exudative pleural effusion between patients of CKD stage 5D with and without compliance to dialysis	67
39	Comparison of transudative pleural effusion between patients of CKD stage 5D with and without compliance to dialysis	68
40	Comparison of etiology of exudative pleural effusion between patients with duration of CKD	69
41	Comparison of transudative pleural effusion between patients with duration of CKD	70
42	Comparison of worsening of pre-existing obstructive airway disease between patients on and not on maintenance dialysis	71
43	Comparison of worsening of pre-existing obstructive airway disease between patients with different stages of CKD	72
44	Comparison of worsening of pre-existing obstructive airway disease between patients with duration of CKD	72
45	Comparison of worsening of pre-existing obstructive airway disease between patients of CKD stage 5D with and without compliance to dialysis	73

46	Distribution of patients with pulmonary hypertension	74
47	Grades of pulmonary hypertension	75
48	Comparison of pulmonary hypertension between patients on and not on maintenance dialysis	76
49	Comparison of pulmonary hypertension between patients with different stages of CKD	77
50	Comparison of pulmonary hypertension between patients of CKD stage 5D with and without compliance to dialysis	78
51	Comparison of pulmonary hypertension between patients with duration of CKD	79
52	Profile of patients who required mechanical ventilation during hospital stay	80
53	Outcome at end of hospital stay	81

LIST OF FIGURES

Fig. No.	Title	Page No.
1	Prognosis of CKD by GFR and albuminuria category	9
2	Age wise distribution of the cases	35
3	Sex wise distribution of cases	36
4	Etiology of CKD	37
5	Duration of chronic kidney disease	38
6	Stages of chronic kidney disease	39
7	Distribution of patients on maintenance dialysis	40
8	Presenting complaint of the cases	42
9	Various co-morbidities of the patients	43
10	Chest X-ray findings of patients	44
11	Different respiratory manifestations of chronic kidney disease patients in our study group	47
12	Comparison of parenchymal manifestations between patients on and not on maintenance dialysis	48
13	Comparison of parenchymal manifestations between patients of CKD stage 5D with and without compliance to dialysis	50
14	Comparison of parenchymal manifestations between patients with duration of CKD	51
15	Organisms isolated in sputum analysis in patients of pneumonia	52
16	Comparison of left ventricular function between patients of pulmonary edema and patients without pulmonary edema	55
17	Comparison of type of left ventricular dysfunction between patients of pulmonary edema and patients without pulmonary edema	56

18	Grades of left ventricular systolic dysfunction in patients of pulmonary edema	57
19	Grades of pleural effusion	58
20	Site of pleural effusion	59
21	Etiology of pleural effusion	61
22	Comparison of etiology of exudative pleural effusion between patients on and not on maintenance dialysis	63
23	Comparison of transudative pleural effusion between patients on and not on maintenance dialysis	64
24	Comparison of etiology of exudative pleural effusion between patients of CKD stage 5D with and without compliance to dialysis	67
25	Comparison of transudative pleural effusion between patients of CKD stage 5D with and without compliance to dialysis	68
26	Comparison of worsening of pre-existing obstructive airway disease between patients on and not on maintenance dialysis	71
27	Comparison of worsening of pre-existing obstructive airway disease between patients of CKD stage 5D with and without compliance to dialysis	73
28	Distribution of patients with pulmonary hypertension	74
29	Grades of pulmonary hypertension	75
30	Comparison of pulmonary hypertension between patients on and not on maintenance dialysis	76
31	Comparison of pulmonary hypertension between patients with different stages of CKD	77

32	Comparison of pulmonary hypertension between patients of CKD stage 5D with and without compliance to dialysis	78
33	Comparison of pulmonary hypertension between patients with duration of CKD	79

KEY TO MASTERCHART

Etiology of CKD

1. DIABETIC NEPHROPATHY
2. HYPERTENSIVE NEPHROPATHY
3. NSAID INDUCED NEPHROPATHY
4. CHRONIC GLOMERULONEPHRITIS
5. IGA NEPHROPATHY
6. ADPKD

Respiratory complaints

1. DYSPNEA
2. CHEST PAIN
3. COUGH
4. SPUTUM PRODUCTION
5. HEMOPTYSIS
6. FEVER
7. PEDAL EDEMA
8. HICCOUGH

Past medical history

1. DIABETES MELLITUS
2. HYPERTENSION
3. HYPOTHYROIDISM
4. CAD
5. COPD/BRONCHIAL ASTHMA
6. MALIGNANCY
7. SLE
8. APLA SYNDROME
9. IGA VASCULITIS

Personal history

1. SMOKER
2. ALCOHOLIC
3. OTHER SUBSTANCE ABUSE

Sputum gram stain

1. GRAM NEGATIVE BACILLI
2. GRAM POSITIVE COCCI
3. GRAM NEGATIVE COCCOBACILLI

Sputum culture sensitivity

1. KLEBSILLA PNEUMONIAE
2. E.COLI
3. PSEUDOMONAS AERUGINOSA
4. ACINETOBACTER BAUMANNII
5. NO GROWTH
6. STREPTOCOCCUS PNEUMONIAE
7. STAPHYLOCOCCUS AUREUS
8. CANDIDA

Sputum fungal smear

1. BUDDING YEAST LIKE CELLS
2. HYALINE SEPTATE FUNGI

INTRODUCTION

Chronic kidney disease (CKD) is a worldwide public health problem and includes the presence of sustained and irreversible abnormality of renal functions and gradual loss of the kidneys ability to maintain homeostasis. CKD results from different causes of renal injury and can lead to progressive loss of renal function. It may lead to end-stage renal disease (ESRD) after a variable period of time following the initiating injury.[1]

Kidney and lung functions are intimately related to each other in both health and disease. The regulation of acid–base equilibrium, carbon dioxide partial pressure, fluid homeostasis and bicarbonate concentration all depend upon the interplay of renal and pulmonary activities.[2] Kidney dysfunction due to various causes directly and indirectly impairs the mechanical function and ventilation of the lungs. A number of respiratory complications occur in patients of chronic kidneyl disease. Though the precise mechanism is not well understood but usually occurs due to alterations in volume status, plasma oncotic pressure, bone and mineral metabolism, concomitant heart failure, and immune dysfunction and other reasons.

Some of the pulmonary manifestations that can occur in patients of chronic kidney disease are as follows:

Pulmonary edema is a common complication in both acute and chronic renal failure and is one of the most common causes of dyspnea in patients with chronic kidney disease and is a leading cause for inpatient admission. Pulmonary edema occurs due to accumulation of fluid or proteins in the alveoli, resulting in a ventilation perfusion mismatch that results in shortness of breath.[3] Pulmonary edema etiology can be divided into cardiogenic and non-cardiogenic groups. Non cardiogenic pulmonary edema occurs due to primarily renal dysfunction leading to impairment of water and solute excretion e.g. fluid overload as in acute or chronic renal failure [renal pulmonary edema]. Cardiogenic pulmonary edema which is more common occurs due to cardiac dysfunction. Finding of increased protein concentrations

in the edema fluid of patients with renal failure also suggests that capillary permeability is also altered in patients of CKD.[4]

Pleural effusion is also a common manifestation in patients of CKD. This can be secondary to fluid overload, renal cardiac disease, pulmonary embolism or tuberculosis infection. However, pleural effusions primarily related to uremia may also be seen, which is a diagnosis of exclusion. Here pleural effusion, which is exudative effusion, persists despite multiple cycles of dialysis. Pleural effusion may be unilateral or bilateral and may range from small to massive in quantity.[5]

Patients with CKD are at higher risk of developing tuberculosis as compared to the general population particularly CKD patients on maintenance haemodialysis. Host resistance to infection is primarily mediated by cellular immunity which is deficient in patients with CKD which predisposes these patients to increased risk of tuberculosis. Diagnosis of TB in CKD patients is challenging due to the increased frequency of extrapulmonary involvement, its atypical manifestations and non-specific symptoms. TB should be kept in the differential diagnosis of any patient presenting with nonspecific symptoms such as anorexia, fever and weight loss.[6]

Pneumonia is one of the common cause of infectious morbidities among patients with chronic kidney disease (CKD). The pneumonia-related mortality among patients with CKD is 14 to 16 fold higher than that of the general population. Not only this but patients with CKD have an increase in severity of pneumonia, leading to increased hospitalization as compared to patients without CKD.[7] Increased risk of pneumonia among patients with CKD may be due to causes and treatment of kidney disease, other associated co-morbidities, reduced vaccine effectiveness and high levels of exposure to healthcare facilities.[8]

Pulmonary hypertension, which rarely is severe, occurs frequently in patients with chronic kidney disease (CKD). Pulmonary hypertension in patients with CKD may be aggravated by left ventricular dysfunction particularly in volume overload conditions, an arteriovenous fistula,

sleep-disordered breathing, exposure to dialysis membranes, endothelial dysfunction, vascular calcification and stiffening.[9] Patients with CKD often have coexisting left heart disease, chronic lung disease, thromboembolic states, liver disease, and other autoimmune diseases, which all are also risk factors for developing PH and increases risk of PH in CKD patients.[10]

Thus we can say that deranged kidney functions can affect lungs in number of mechanism and patient of CKD can have different pulmonary manifestation.

Despite of that, there is no much data available that specifies the complete spectrum of pulmonary involvement in such patients and also data on the true incidence of certain complications are lacking due to a high chance of co-existence of more than one pleuropulmonary complication in CKD. So, this detailed study will give us a better understanding of respiratory involvement and this will help us to improve the outcome in these patients.

With this background, we conducted the cross-sectional study of different pulmonary manifestations in patients of chronic kidney disease.

AIMS AND OBJECTIVES

1. To study the spectrum of pulmonary involvement in patients of Chronic Kidney Disease.
2. To compare the spectrum of pulmonary involvement between chronic kidney disease patients on maintenance haemodialysis/CAPD [stage 5D] and chronic kidney disease patients not on haemodialysis [stage 3, stage 4, stage 5ND].

REVIEW OF LITERATURE

Chronic kidney disease has become important global health problem and one of the most common causes of death in the world. Patient of CKD are steadily growing all around the world. At present, more than 2 million worldwide are estimated to be receiving renal replacement therapy. Poor outcomes among patients of CKD are not only due to renal failure but due to multiorgan dysfunction arising due to its wide array of complications. CKD is also very common in people with other chronic diseases and is an independent risk factor of adverse outcomes. To decrease the burden of disease, prevention, early detection, and intervention are the cost-effective strategies.[11]

CKD is defined as kidney damage which is estimated by using certain markers including albuminuria or glomerular filtration rate (GFR) which should be less than 60 mL/min/1.73 m^2 for at least 3 months or longer. Albuminuria is defined as spot UPCR greater than 30 mg/g, and GFR is calculated by using serum creatinine level, age, sex, and race. Kidney disease worsens over time by transitioning through a defined sequence of stages, regardless of the cause and rate of progression through each stage. Thus, it should be possible to detect CKD prior to kidney failure by testing for markers of kidney damage and estimating the level of GFR.

EPIDEMIOLOGY OF C.K.D. IN INDIA

Chronic kidney disease (CKD) and end-stage renal disease (ESRD) is emerging as public health problems in developing countries including India[12] and there are rapidly increasing number of CKD patients in India. Unfortunately there is no longitudinal study to tell the prevalence of disease in India and there is limited data on the prevalence of CKD.

Narinder P Singh et al[13] in 2005 conducted cross-sectional study to calculate prevalence of low estimate GFR (eGFR), as defined by eGFR <60 ml/min/1.73 m2 in Delhi and its surrounding regions and found that prevalence of low eGFR was 13.3% by CG equation and 4.2% by MDRD equation. There was 2.25% prevalence of proteinuria, as assessed by dipstick method in the study group. Sanjay Agarwal et

al[14] studied prevalence of chronic renal failure in adults in Delhi. Total of 4712 adults were evaluated, detailed questionnaire was asked, and dipstick urine test for albumin and sugar and a blood test for serum creatinine was done. CRF was found in 37 of them. Thus, the prevalence of CRF in adult population was found to be 0.785% or 7852/million. In SEEK (Screening and Early Evaluation of Kidney Disease) study by Ajay K Singh et al[15] in 2005 to estimate prevalence of CKD in India, the overall prevalence of CKD was 17.2% with a mean eGFR of 84.27 ± 76.46. It was found out that prevalence of CKD stages 1, 2, 3, 4 and 5 was 7%, 4.3%, 4.3%, 0.8% and 0.8%, respectively.

Table 1: Prevalence of CKD in India according to various studies[16]

Authors	n	Mean age (in years)	DM (%)	HTN (%)	Criteria of CKD	Stage and prevalence	Limitations
Agarwal *et al.*	4712 urban	42±13	10.7	22.13	Creatinine ≥1.8 mg/dl on two occasions 8-12 weeks apart	Stage 3 and above=0.785%	Creatinine cut off 1.8 mg/dl is high Proteinuria subset not included as CKD GFR not calculated
Varma *et al.*	3998 mixed	35.65±8.72	1.53	15	Almuminuria >30 mg/L or albumin/creatinine ratio >30 and/or GFR <60 ml/min by MDRD and CKD-EPI	Stage 1-3=13%	Albuminuria done only once
Singh *et al.*	5588 urban	45.2±15.2	18.8	43.1	Dip stick proteinuria GFR <60 ml/min	Stage 1-5=17.2%, 6% stage 3 and above	Voluntary approach Large number having DM and HTN (high-risk group), population not true representative
Singh *et al.*	5252 semi-urban	-	7.3	31.2	Dip stick proteinuria and GFR <60 ml/min	Stage 3 and above=4.2%	Proteinuria not repeated

DM: Diabetes mellitus, HTN: Hypertension, CKD: Chronic kidney disease, GFR: Glomerular filtration rate, MDRD: Modification of diet in renal disease, CKD-EPI: Chronic kidney disease epidemiology

From above table, we can infer that there is varied difference among prevalence of CKD mainly due to difference in population screened, and criteria used for CKD diagnosis.[16]

DEFINITION OF CKD

According to KDIGO guidelines, CKD is defined as abnormalities of kidney structure or function, present for >3 months, with implications for health.

CRITERIA TO DEFINE CKD (based upon KDIGO 2012 clinical practice guidelines)

1. Duration of disease >3 months based upon documentation or inference
2. GFR <60 ml/min/1.73m^2
3. Kidney damage as defined by structural abnormalities or functional abnormalities other than decreased GFR
    - Albuminuria as a marker of kidney damage [AER≥30mg/24 hours]
    - Urine sediment abnormalities as markers of kidney damage
    - Renal tubular disorders
    - Pathological abnormalities detected by histology or inferred
    - Structural abnormalities as marker of kidney damage as detected by imaging
    - History of renal transplantation

The normal GFR in young adults is approximately 125 ml/min/1.73 m^2. GFR <15 l/min/1.73 m^2 (GFR category G5) is defined as kidney failure GFR is calculated by CKD-EPI creatinine equation.[17]

GFR = 141 × min (SCr/κ, 1) α × max (SCr/κ, 1)-1.209 × 0.993Age

[Multiply by 1.018 for women

Multiply by 1.159 for African ancestry

where SCr is serum creatinine in mg/dL, κ is 0.7 for females and 0.9 for males, α is –0.329 for females and –0.411 for males, min indicates the minimum of SCr/κ or 1, and max indicates the maximum of SCr/κ or 1]

CLASSIFICATION OF CKD

The KDIGO classification of CKD is based upon the severity of the disease as evaluated by GFR, with higher stages representing lower GFR levels and vice versa. CKD is categorized into 5 stages and patients receiving treatment with dialysis are sub classified as GFR stage 5D to highlight the specialized care required for dialysis.[18]

TABLE 2: CATEGORIES OF CKD BY THE LEVEL OF GFR[19]

CATEGORY	GFR (ml/min/1.73m^2)	DESCRIPTION
1	≥90	Kidney damage with normal GFR
2	89-60	Kidney damage with mild decrease in GFR
3a	59-45	Mild to moderate decrease in GFR
3b	45-30	Moderate decrease in GFR
4	30-15	Severe decrease in GFR
5ND	<15 and not on dialysis	Kidney failure
5D	On dialysis	Kidney failure

TABLE 3: CATEGORIES OF CKD BY THE LEVEL OF ALBUMINURIA[19]

CATEGORY	AER[mg/day]	ACR[approximately equivalent]		DISCRIPTION
		[mg/mmol]	[mg/g]	
A1	< 30	< 3	< 30	Normal to mildly increased
A2	30-299	3-30	30-299	Moderately increased
A3	≥300	≥30	≥300	Severely increased

Both GFR and albuminuria helps in predicting risk for outcome of CKD. Latest KDIGO guidelines combined GFR and albuminuria to put forth a 'heat map' that categories into four groups based on a composite of

risks for the five outcomes: low (green), moderate (yellow), high (orange), and very high (red)

FIGURE: Prognosis of CKD by GFR and albuminuria category.[19]

Prognosis of CKD by GFR and albuminuria category

Prognosis of CKD by GFR and Albuminuria Categories: KDIGO 2012				Persistent albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30-300 mg/g 3-30 mg/mmol	>300 mg/g >30 mg/mmol
GFR categories (ml/min/ 1.73 m^2) Description and range	G1	Normal or high	≥90			
	G2	Mildly decreased	60-89			
	G3a	Mildly to moderately decreased	45-59			
	G3b	Moderately to severely decreased	30-44			
	G4	Severely decreased	15-29			
	G5	Kidney failure	<15			

Green: low risk (if no other markers of kidney disease, no CKD); Yellow: moderately increased risk; Orange: high risk; Red, very high risk.

MAJOR CAUSES OF CHRONIC KIDNEY DISEASE(S):

1. GLOMERULOPATHIES

A) Primary glomerular diseases:

- Focal and segmental glomerulosclerosis
- Membranoproliferative glomerulonephritis
- Membranous nephropathy
- lgA nephropathy

B) Secondary glomerular diseases:

- Diabetic nephropathy Amyloidosis
- Post-infectious glomerulonephritis
- HIV-associated nephropathy Collagen-vascular diseases

- Sickle cell nephropathy

2. TUBULOINTERSTITIAL NEPHRITIS

- Idiopathic
- Reflux/ chronic pyelonephritis
- Drug hypersensitivity
- Heavy metals
- Analgesic nephropathy

3. HEREDITARY DISEASES

Polycystic kidney disease, Medullary cystic disease, Alport's syndrome

4. OBSTRUCTIVE NEPHROPATHIES

- Prostatic disease
- Nephrolithiasis
- Retroperitoneal fibrosis/ tumor

5. VASCULAR DISEASES

- Hypertensive nephrosclerosis
- Renal artery stenosis

In 2018 Manjuri Sharma et al [20], conducted study on etiological profile of CKD in Assam and found out that most common etiology of CKD was DM which was seen in 42.2% cases, followed by CGN in 21.4%, HTN in 19.5%, obstructive uropathy in 6.9%, CIN in 3.6%, and ADPKD in 1.5% of CKD patients. About 2.7% patients had CKD of unknown etiology. In study by Rajapurkar et al[21] on epidemiology of 52,273 patients of CKD, mean age of study group was 50.1 ± 14.6 years with male female ratio of 70:30. Diabetic nephropathy was the commonest cause (31%) of CKD, followed by CKD of undetermined etiology (16%), CGN (14%) and hypertensive nephrosclerosis (13%).

In study by Gooneratne et al[22] in 2006 on Epidemiology of chronic kidney disease in a Sri Lankan population, it was found out that out of One hundred and twenty-one patients of CKD most common cause of CKD was diabetic nephropathy in 30.6% cases, followed by hypertension in 13.2% cases, glomerulonephritis in 9.9%, and obstructive uropathy in 8.3% cases. Whereas in another study by Wijewickrama et al[23] on Epidemiology of chronic kidney disease, out of 200 patients of CKD most common underlying causes of CKD was

diabetes mellitus in 44% cases and hypertension in 17% cases. However, in patients younger than 40 years of age the most common cause was glomerulonephritis (42.6%).

RESPIRATORY INVOLVEMENT IN CKD PATIENTS

Lung and kidney function are intimately related in both health and disease. Respiratory changes help in mitigating the systemic effects of renal acid-base disturbances, and the reverse also occurs, although renal compensation occurs more slowly than its respiratory counterpart.[24] Pulmonary abnormalities may arise as a direct consequence of renal disease or through generalized systemic processes that specifically involve both organ systems concomitantly. A large number of diseases affect both the lungs and the kidneys. The Pulmonary-renal syndrome refers to the combination of diffuse alveolar haemorrhage and rapidly progressive glomerulonephritis. The common causes of pulmonary-renal syndrome are autoimmune disorders such as[25]

- Goodpasture syndrome
- Systemic lupus erythematosus (lupus)
- Granulomatosis with polyangiitis
- Microscopic polyangiitis

Venkatesh Moger et al[26] in 2015 conducted study on prevalence of different respiratory manifestations in 100 patients with CKD. It was observed that respiratory diseases were prevalent in 70% of them and most common among them was pulmonary edema which was seen in 67% of patients, followed by pleural effusion in 54% of patients, pulmonary tuberculosis in 6%, tuberculous pleural effusion in 2% and peumonia occurred in 5% of them. Sleep apnea was present in 12 out of 20 patients studied. Mean age of the study population was 45.50 ± 13.25 years with male female ratio of 55:45. Pankaj Pant et al[27] in 2019 conducted study on prevalence of respiratory manifestations in patients of Chronic Kidney Diseases in Nepal. 165 diagnosed patients of CKD were included in the study and it was observed that prevalence of respiratory manifestations was 102 (61.8%) with most common being pulmonary edema seen in 41 (24.84%) patients, followed by

pleural effusion in 18 (10.9%) patients, Pneumonia in 17 (10.3%) and Pulmonary tuberculosis was present in 9 (5.45%) patients.

DIFFERENT RESPIRATORY MANIFESTATIONS

PULMONARY EDEMA

Pulmonary edema is a most common respiratory manifestation in patients of chronic kidney disease. Fluid overload is the most common and concerning risk factor in end stage kidney disease that decides the prognosis in the patients. Volume expansion is an independent risk factor of mortality among patients of CKD. Edema is an excessive accumulation of fluid within several spaces of the body including the blood vessels, the lungs (pulmonary edema), the trunk and lower extremities (peripheral edema), as well as cavities within the abdomen (ascites) and lungs (pleural effusions).[28] Under normal conditions, excessive fluid in the alveolar space is drained by pulmonary lymphatic vessels. If there is disruption of alveolar epithelial barrier or there is excessive interstitial fluid volume in the lungs to more than 50%, there occurs flooding of the alveolar space leading to pulmonary edema. The movement of fluid is dependent on both hydrostatic and oncotic pressures and is modelled by the Starling equation.[3] The occurrence of peripheral edema in patients with CKD may be attributed to either heavy proteinuria or advanced deterioration in kidney function.

Pulmonary edema is of 2 types: Firstly, cardiogenic pulmonary edema which occurs due to elevated pulmonary capillary pressure from left sided heart failure; second, noncardiogenic pulmonary edema from injury to the endothelial and epithelial barriers.[29] Pulmonary edema due to organ dysfunction such as renal failure is emerging as the main cause of pulmonary edema, especially due to widespread access to haemodialysis services and improved survival among patients of CKD.[4]

CARDIOGENIC PULMONARY EDEMA

Cardiogenic pulmonary edema is the most common type of pulmonary edema in CKD. It occurs due to an increase in the capillary hydrostatic pressure, sufficient enough to overcome the forces maintaining fluid

within the blood vessel. As left atrial pressure rises, pulmonary capillary pressure increases which results in protein poor fluid (edema) being forced into the lung interstitium and alveoli. All the factors which cause increase of pressure in the left side of heart which leads to pooling of blood on the left side of the heart can cause cardiogenic pulmonary edema[30] such as coronary artery disease with left ventricular failure (myocardial infarction), congestive heart failure, cardiomyopathy, valvular heart diseases on the left side of the heart (stenosis and regurgitation), Cardiac arrhythmias etc.

NON CARDIOGENIC PULMONARY EDEMA

Pulmonary edema occurring in association with noncardiac disease is secondary to increase in the permeability of the pulmonary microvasculature.[28] Noncardiogenic pulmonary edema has a variety of etiologies that may include[31] Acute respiratory distress syndrome (ARDS), High altitude pulmonary edema (HAPE), Neurogenic pulmonary edema, opioid overdose, pulmonary embolism, reexpansion pulmonary edema, reperfusion pulmonary edema.

CLINICAL FEATURES

Patients of CKD with pulmonary edema usually presents with shortness of breath, dyspnea on exertion, orthopnea, and paroxysmal nocturnal dyspnea and profuse diaphoresis. There may be cough which may be dry or productive. Hemoptysis is an uncommon presenting symptom.

Jimnaz P. A et al [32] conducted study on acute pulmonary edema in 100 patients of CKD and its clinical outcome. It was observed that common causes of acute pulmonary edema were excessive interdialytic weight gain seen in 34%, inappropriate dry weight estimation in 18%, acute pulmonary infection in 15%, heart failure in 7% and Hypertension crisis was seen in18% of total cases similarly in study by Marie-Patrice Halle et al[33] in 2007 on etiological causes of pulmonary edema in 102 patients of CKD. In the study, hypertension (36.3%), chronic glomerulonephritis (25.5%) and diabetes mellitus (17.6%) were the main causes of chronic renal failure and 38.2% patients had a past history of acute pulmonary edema (APO).

Pulmonary infection (26%), excessive interdialytic weight gain (25%) and inappropriate dry weight prescription (23%) were the leading causes of acute pulmonary edema among CKD patients.

EVALUATION: High clinical suspicion is required to diagnose pulmonary edema. Different test may be performed to evaluate cause of pulmonary edema as therapy may differ depending upon cause.[34]

Blood Test - CBC (to rule out anemia and sepsis), Serum electrolytes (patients on diuretic therapy may have disturbances), pulse oximetry and ABGs, BNP (low levels rule out cardiogenic type)

ECG - Used to rule out ischemic changes and rhythm abnormalities.

Radiologic investigation- Chest X-ray (most important investigations to evaluate pulmonary edema and overload states)

Echocardiography- helps to determine the etiology of cardiogenic pulmonary edema. It differentiates systolic from diastolic dysfunction and valvular lesions.

MANAGEMENT: The management of pulmonary edema in CKD patients involves treatment of the underlying disease and supportive measures, such as mechanical ventilation, maintenance of adequate nutrition, and lowering the PAWP with diuretics, ultrafiltration (haemodialysis, if required), and fluid restriction.[29] Pulmonary edema can progress to acute respiratory failure, which may require need for mechanical ventilator. ARDS is a common complication of acute lung injury with progressive hypoxemia often requiring intubation and mechanical ventilation.[35] Chronic pulmonary edema in patients of CKD is associated with poor outcome as seen in study by Debasish Banerjee et al[36] on long-term survival of CKD patients started on haemodialysis, who were hospitalized for congestive heart failure, pulmonary edema and fluid overload, It was observed that deaths during the hospital admission were 8.7% for congestive heart failure, 4.0% for fluid overload, and 6.6% for pulmonary edema. It was calculated that five-year survival rate of patients were 12.5%, 20.2%, and 21.3%, respectively.

PLEURAL EFFUSION

Pleural effusion is the collection of excess amount of fluid in the pleural space. Pleural effusion is a common finding in patient admitted in hospital with complaint of dyspnea. Pleural effusion is a one of the common respiratory manifestation in patients of CKD.

In study by Souvik ray et al [37] in 2010 in 430 patients of CKD and 34 patients of post renal transplantation. 29 out of 430 CKD patients and 2 out of 34 post renal transplant receipt patients had pleural effusion. Transudative and exudative pleural effusion was present in equal number of patients and most common cause of transudative pleural effusion was heart failure which was present in 41.9% of patients. Most common causes of exudative pleural effusion in the study was tuberculosis which was present in 25.8% of patient and uraemic pleural effusion which was present in 19.4% of patients and empyema was present in 6 patients. In 2016 Gadkari Nitin et al[38] conducted study on 40 CKD patients having pleural effusion and found out that transudative effusion was present in 75 % of cases and most common cause of transudative pleural effusion was cardiac failure which was present in 33% cases. In rest 10 patients, exudative effusion was present and tubercular pleural effusion was the most common cause and was seen in 80% of patients and in rest 2 patients uraemic pleural effusion was present. No parapneumonic and empyema cases were present.

In 2017, Bakirci et al**[39]** retrospectively studied pleural Effusion in 257 patients on long term Haemodialysis and found that 20.2%(52) patients had pleural effusion. Pleural tap was done in 14 of the 52 patients studied and found out that 64.3% of patients had transudative and 35.7% had exudative pleural effusion. Most common cause of transudative pleural effusion was fluid overload and of exudative pleural effusion was uremic pleuritis. Similarly In 2007, Virupakshappa V et al[40] studied profile of pleural effusion in chronic kidney disease patients undergoing haemodialysis. 50 patients of CKD who were on haemodialysis were taken up for study. It was observed that moderate pleural effusion was seen in 70% of cases. Unilateral pleural effusion

was seen in 70% of cases, in rest 30% bilateral effusion was seen. Transudative effusion was present in 64% of cases. Out of 18 patients with exudative pleural effusions, 12 patients had para-pneumonic effusions. Out of 32 patients with transudative pleural effusions, 4 were due to volume overload.

DIFFERENT CAUSES OF PLEURAL EFFUSION IN CKD PATIENTS

1. TRANSDUATIVE-
    - Congestive heart failure
    - Urinothorax
2. EXUDATIVE-
    - Parapneumonic
    - Tubercular
    - Uraemic
    - Malignancy
    - Pulmonary thromboembolism

Pleural fluid is differentiated into transudative and exudative based upon LIGHT'S CRITERIA: The pleural fluid is an exudative if one or more of the following criteria are met:[41]

1. Pleural fluid protein / Serum Protein > 0.5
2. Pleural fluid LDH / Serum LDH > 0.6
3. Pleural fluid LDH more than 2/3rd the upper limits of normal Serum LDH

TRANSUDATIVE PLEURAL EFFUSIONS:

1. PLEURAL EFFUSIONS DUE TO HEART FAILURE:

Congestive heart failure (CHF) appears to be the most common cause of pleural effusion in chronic kidney disease. Pleural fluid accumulates in patients with CHF especially when they have left ventricular dysfunction. Fluid accumulates within pleural cavity when the entry of fluid into the pleural space overwhelms the capacity of the lymphatics to remove the excess fluid. They are usually bilateral or right sided and are rarely left sided.[42] Cardiovascular complications are common among patients of CKD, particularly with end stage renal disease (ESRD) patients. This may include left ventricular hypertrophy (LVH),

Systolic and diastolic dysfunction. Premature cardiovascular disease is a major risk factor for morbidity and mortality among patients with CKD. It occurs due to multiple reasons including dyslipidaemia and oxidative stress.[43]

Laddha et al[44] conducted study on cardiac dysfunction in patients of end stage renal disease on haemodialysis. Seventy patients with ESRD were taken and it was observed that left ventricular hypertrophy (LVH) was present in 74.3%. Systolic dysfunction in 24.3% cases and diastolic dysfunction in 61.4% of total patients studied. Regional wall motion abnormality (RWMA) was present in 12.9% cases. Dr. B.Suresh Reddy in 2017**[45]** conducted study on echo findings in patients of CKD and observed that systolic dysfunction was present in 27.5% of patients and diastolic dysfunction was present in 50% of patients studied. 22.5% of patients showed dilated and 47.5% of patients showed concentric LVH. In 2019, Kartheek et al[43] conducted study on assessment of cardiac dysfunction in patients with end stage renal disease. 50 patients with ESRD were taken up for study and were evaluated for cardiac dysfunction. It was observed that cardiovascular abnormalities were present in 76% of patients with diastolic dysfunction being more common as compared to systolic dysfunction in patients with CKD. Similarly in study by Sachdeva et al[46] in 2017 on ECHO findings in 60 patients of CKD, diastolic dysfunction was seen in 38.33% of cases.

CLINICAL FEATURES: Patients of CKD with pleural effusions due to CHF usually presents with dyspnoea on exertion which may be out of proportion to the size of the effusion, peripheral oedema, orthopnoea or paroxysmal nocturnal dyspnoea. Signs of right-sided heart failure may also be seen

DIAGNOSIS: Chest radiograph almost always reveals cardiomegaly and usually bilateral pleural effusions. BNP may be raised.

TREATMENT: Fluid restriction, diuretics, haemodialysis if required in resistant cases.

2. URINOTHORAX:

Urinothorax is a accumulation of urine in the pleural space. It is a very rare cause of pleural effusion.[47] This occurs due to the retroperitoneal leakage of urine which is called urinoma. The urine then passes into the pleural cavity through an anatomical defect in diaphragm or via lymphatic system.[48] It is usually unilateral. Obstructive uropathy with hydronephrosis and disruption of the diaphragm by abdominal trauma are the common cause.

EXUDATIVE PLEURAL EFFUSION

1. PARAPNEUMONIC: Parapneumonic effusion is an accumulation of exudative pleural fluid associated with the lung infection, mainly pneumonia. Parapneumonic effusions are mainly associated with bacterial infections.[49] CKD patients are at a greater risk of pulmonary infections. Parapneumonic pleural effusions are classified into:[50]

- Uncomplicated parapneumonic effusion
- Complicated parapneumonic effusions
- Empyema thoracis

At least 40-60% of patients with bacterial pneumonia will develop a pleural effusion of varying severity. Treatment of parapneumonic effusion includes appropriate antibiotic therapy together with drainage of pleural fluid

2. TUBERCULAR: Tubercular pleural effusion occurs due to hypersensitivity reaction to tuberculous protein and the bacillary burden in the pleural space is low. Patients usually present with an acute illness and most common symptom is cough, which is non-productive and associated with chest pain, which is usually pleuritic in nature. The pain usually precedes the cough. Most patients are febrile, but approximately 15% will be afebrile.[51] Patients can present with dyspnea especially if the effusion is large and related to mechanical dysfunction of the diaphragm due to inversion. Effusions are usually unilateral and can be of any size. Rarely, pleural tuberculosis can present with pleural-based nodules and thickening.[52]

3. URAEMIC PLEURITIS: Uraemic pleural effusion was first reported in 1955, when Hopps and Wissler demonstrated fibrinous pleuritis in

20% of uraemic patients at autopsy. Uraemic pleuritis occurs due to chronic fibrinous inflammation of the visceral and parietal pleura. Although the pathogenesis of uremic pleuritis remains uncertain, it has primarily been reported in patients with ESRD receiving dialysis.[53] In uraemic pleuritis, pleural effusion is typically a serosanguineous or haemorrhagic exudative fluid which is usually lymphocyte-predominant fluid. Uremic pleuritis is a diagnosis of exclusion.[54] Pleural fluid analysis that support a uremic effusion include sterile cultures and a fibrinous exudates, though diagnosis is confirmed by pleural biopsy. Dyspnea is the most common symptom, which is followed by cough, weight loss, anorexia, chest pain, and fever and sometimes with an audible friction rub on auscultation. In study by Rashid-Farokhi et al [55], prevalence of uremic pleuritis was 23.7% among total cases of pleural effusion. Management of patients with uremic pleural effusions includes intensified continued haemodialysis, repeated thoracentesis, chest tube drainage may be needed in certain cases.

PNEUMONIA

Infections are the important risk factor for noncardiovascular morbidity and mortality among patients with CKD. Bacteraemia is the one of the common cause of death in patients with end-stage renal disease (ESRD) who requires dialysis. The high rate of bloodstream infection in patients receiving haemodialysis is attributed mainly to vascular access. Also, hospital admissions due to septicaemia in patients with CKD not on maintenance dialysis seem to be 3 to 4 fold greater than in patients without CKD.[56]

Pneumonia is one of the most common sources of infectious morbidities in patients with chronic kidney disease (CKD). Pneumonia in patients with CKD is associated with increased morbidity and mortality. The increased risk of pneumonia in patients with CKD is due to uremia-related impairment in monocyte, neutrophil phagocytosis, T lymphocytes, B lymphocytes, and increased cytokines.

Che-Yi Chou et al[7] conducted study on risk of pneumonia among patients With Chronic Kidney Disease.15,562 patients with CKD and 62,109 individuals without CKD admitted in hospital between 1996 to

2010 were taken up for study. Incidence rate of pneumonia was calculated in both groups. It was observed that incidence of pneumonia was 65.6 per 1000 person years in patients with CKD and 28.4 per 1000 person-years in individuals without CKD. It was also noted that incidence rate of inpatient pneumonia was 43.3 per 1000 person-years in patients with CKD and 16.6 per 1000 person-years in individuals without CKD. Thus the study concluded that CKD is associated with the increased risk of both outpatient and inpatient pneumonia. James et al[57] conducted study on risk of hospitalisation and death due to pneumonia among patients with CKD and found that adjusted hazard ratios for hospitalization with pneumonia was 3.23 in those with eGFR of 45 to 59 mL/min/1.73 m, 9.67 for eGFR of 30 to 44 mL/min/1.73 m, and 15.04 for eGFR less than 30 mL/min/1.73 m. Study concluded that risk of hospitalization and death with pneumonia is greater at lower eGFRs. Also study by Lai et al[58] found that patients with chronic kidney disease have a 1.52-fold increased risk of contracting pneumonia as compared to those with non-chronic kidney disease patients. Even in the absence of any co-morbidity, risk greater than average of contracting pneumonia is present in patients of CKD.

CLINICAL FEATURES: Patients may present with symptoms of cough with or without sputum production, fever, shortness of breath, altered sensorium. In study by Diego viasus et al[59] it was seen that the majority of CKD population will come with severe pneumonia at presentation as compared to general population.

Diego Viasus et al**[59]** conducted study on epidemiology, clinical features and outcomes of pneumonia in patients with chronic kidney disease. 3800 diagnosed patients of pneumonia based upon clinical, radiological features were taken up for study. It was found that 203(5.3%) patients had CKD of whom 46 were on maintenance dialysis and patients with CKD were older (77 versus 70 years). Streptococcus pneumonia was the most frequent pathogen among patients with CKD (28.1 versus 34.7%; P = 0.05) and also mortality was higher in patients with CKD (15.8 versus 8.3%).

CAUSATIVE ORGANISM: The most common cause of community-acquired pneumonia (CAP) is Streptococcus pneumoniae, which is followed by Klebsiella pneumoniae, Haemophilus influenzae, and Pseudomonas aeruginosa whereas most common causes of HCAP and HAP are MRSA (methicillin-resistant Staphylococcus aureus) and Pseudomonas aeruginosa, respectively.[60] But patients with decreased renal function are at increased risk of infection with Staphylococcus aureus and fungus infection, which explains increased mortality among patients with decreased renal function.[61] In study by Diego viasus et al,[59] Streptococcus pneumonia was the most frequent pathogen among patients with CKD.

DIAGNOSIS: Pneumonia is diagnosed by a combination of relevant clinical history, physical examination and laboratory tests. Gold standard investigation for diagnosing pneumonia is a chest X-ray (CXR) which helps to distinguish pneumonia from other respiratory tract infections. Other diagnostic tests include laboratory tests (white blood cell count (WBC), erythrocyte sedimentation rate (ESR), blood culture, serology. Computed tomography scan (CT scan) is done in certain special cases where diagnosis is difficult.[62]

In study by Eric Judd et al[60] 68 patients on haemodialysis were evaluated and diagnosis of pneumonia was made in 21% (14/68) of patients. It was observed that chest radiograph attributes for diagnosing pneumonia with sensitivity of 50%, specificity of 58%, and positive predictive value of 25% and negative predictive value of 81%.

TREATMENT: In all suspected patients with bacterial pneumonia, empirical therapy should be started immediately. But the first step in managing patients with pneumonia is to quantify risk to know whether the patient should be treated in an OPD basis or inpatient setting. An expanded CURB-65 pneumonia severity score can be used for risk quantification. It includes C = Confusion, U = Uraemia (BUN greater than 20 mg/dL), R = Respiratory rate (greater than 30 per min), B = B.P (BP less than 90/60 mmHg) and age greater than 65 years. One point is scored for each of these risk factors.[63]

1. Outpatient Setting [score 0-1]- For patients with co-morbid conditions (e.g., diabetes, malignancy, etc.), the regimen is fluoroquinolone or beta-lactams + macrolide whereas for patients with no co-morbid conditions, it is observed that macrolide or doxycycline alone gives good result.

2. Inpatient Setting (non-ICU) [score 2]: Recommended therapy is fluoroquinolone or macrolide + beta-lactam.

3. Inpatient Setting (ICU) [score more than equal to 3]: Recommended therapy is beta-lactam + macrolide or beta-lactam + fluoroquinolone.

If MRSA: Vancomycin or linezolid can be added.

PROGNOSIS IN CKD PATIENTS: Pneumonia in patients with CKD is associated with poor prognosis as compared to general population. In study by Haifeng Guo et al[64] on pneumonia in dialysis patients. 289,210 patients initiating dialysis between 1996 and 2001 were taken up for study and were followed until 31 December 2003. It was found out that overall incidence rate of pneumonia was 27.9/100 patient-years (29.0 in haemodialysis patients vs. 18.2 in peritoneal dialysis patients) and it was seen that there is a increased risk of death in the initial 6-month interval after pneumonia, which subsequently reduces after 5 years.

TUBERCULOSIS

Patients with renal disease are at increased risk of tuberculosis (TB). There is an increased risk (6.9 to 52.5-fold) of tuberculosis (TB) among patients with chronic renal failure and on dialysis as compared to the general population. The symptoms in renal patients are often insidious and nonspecific, mimicking uremic symptoms.[65] Extra-pulmonary tuberculosis is more common than pulmonary tuberculosis. The various extra-pulmonary tuberculosis sites which can be involved in patients of CKD are cervical lymphadenitis, gastrointestinal, genitourinary, peritonitis, pleural effusion, pericardial effusion, miliary tuberculosis.[66]

In 2007, Venkata et al[67] conducted study on prevalence of tuberculosis in CKD patients and found that 4% of total 900 patient

studied had tuberculosis with extrapulmonary form of tuberculosis seen in 63.8% of patients as compared to pulmonary form in 36.1% patients.

Min et al[68] conducted study on risk of active Tuberculosis among patients with end stage renal disease. 59,584 patients with new-onset ESRD during 2004–2013, who were started on maintenance heamodialysis were taken for study and equivalent number of non-dialysis subjects from the general population, were included in the study. The incidences of active TB in the ESRD and control cohorts were calculated for 2004–2013. It was noted that 457 (0.8%) and 125 (0.2%) cases of active TB were detected among CKD patients on maintenance dialysis and control cohorts, respectively. It was then concluded that patients with ESRD have significantly higher risk of active TB compared to the general population.

Mahesh Lal et al**[69]** conducted study on prevalence of Tuberculosis in 160 patients with Chronic Kidney Disease admitted at Safdarjung Hospital, New Delhi. It was found that 22 patients showed evidence of tubercular infection (13.7%). Out of these 22 subjects, 17 had extra-pulmonary and only 5 had pulmonary TB. TB infection was more prevalent among the patients on dialysis (18) than those who were not on dialysis. Therefore, it was concluded that TB is more common in patients of CKD and it is advised to screen patients of CKD more so due to their over lapping signs and symptoms.

Cheng et al[70] conducted study on risk of pulmonary tuberculosis in patients of chronic kidney disease. 16,052 patients with newly diagnosed CKD between 2000 and 2012 were taken in the CKD group, and 31,949 randomly selected subjects who did not have CKD formed the non-CKD group. Incidence of pulmonary TB was noted at the end of 2013. It was observed that incidence of pulmonary TB was 1.47-fold greater in the CKD group compared to that in the non-CKD group (4.94 vs. 3.35 per 1000 person-years.

A. Yousef et al[71] conducted study on pulmonary tuberculosis in 140 patients with chronic renal failure. Mean age of patients was found to be 49 ± 6.4 years. Patients were classified to three groups which includes Group 1 with 40 Patients on conservative management,

Group 2 with 50 Patients on maintenance dialysis 3 times per week for <1 year and Group 3 with 50 Patients on maintenance dialysis 3 times per week for >1 year. All patients were evaluated for pulmonary and extrapulmonary tuberculosis. 16 patients (11.4%) were diagnosed to have pulmonary tuberculosis in which ZN stain for acid fast bacilli was positive in either sputum or BAL whereas 28 patients (20%) were suspected to have pulmonary tuberculosis by radiological findings but sputum for acid fast bacilli was negative and 6 patients (4.3%) were having extra-pulmonary TB. It was found that there was no significant difference among different groups. It was concluded Patients of CKD at increased risk for pulmonary and extra pulmonary tuberculosis.

PATHOPHYSIOLOGY OF TB IN CKD: Advanced CKD is associated with oxidative stress and inflammation, 25-hydroxyvitamin D deficiency, malnutrition, and immune dysfunction with evidence of functional abnormalities in various immune cells including B and T cells, neutrophils, monocytes, and natural killer cells. There occurs impaired cell-mediated immunity in patients on haemodialysis and leaves patients susceptible to infectious complications. Transplant recipients are also at high risk of active TB, due to immunosuppressive medications that specifically target T cell–mediated immunity[72] Also, associated co-morbidities conditions such as diabetes or other autoimmune diseases further impair immunity, renders CKD patients susceptible hosts to tubercular infections.[7]

CLINICAL FEATURES: Patients usually presents with an insidious onset of symptoms like fever, anorexia, and loss of weight thus mimics uremic symptoms.

In study by Sanjay Vikrant[73] on clinical profile of tuberculosis in patients with chronic kidney disease, it was observed that main clinical presentation of TB was fever/pyrexia of unknown origin which was seen in 24.3%, constitutional symptoms of anorexia, fever, night sweats, and weight loss in 27.8%, abnormal chest radiograph in 31.2%, ascites/peritonitis in 13.9%, pleural effusion in 25.2%, lymphadenopathy in 20%, and sterile pyuria/hematuria/chronic pyelonephritis in 13%. Similarly in study by Ravi R. Pradhan et al**[74]**,

the most common clinical presentations of TB in CKD were anorexia which was found in 85.7% cases, fever in 83.7, weight loss in 51% and cough in 49% of total cases.

DIAGNOSIS: All patients with a chronic cough, unexplained weight loss or night sweats and other non specific uraemic symptoms should have a chest radiograph done. 3 consecutive early morning sputum samples should be sent for AFB smear. Since there is high prevalence of latent TB infection (LTBI) in ESRD patients, screening for LTBI is recommended to prevent progression to active TB and secondary contamination of others. The tuberculin skin test (TST), the classic diagnostic tool for LTBI, has several major drawbacks in CKD patients, including poor sensitivity and specific. New immunological tests using IFN-γ release assays have become available and are more sensitive and specific for the diagnosis of TB compared with the TST in ESRD patients.[75]

MANAGEMENT IN CHRONIC KIDNEY DISEASE

First-line therapy for diagnosed patients with TB includes isoniazid, rifampicin, pyrazinamide, and ethambutol. The standard quadruple therapy regimen is recommended in patients with CKD or a kidney transplant. But it should be noted that Ethambutol and pyrazinamide are cleared through renal excretion and require renal-adjusted.

TABLE 4: RECOMMENDED DOSES OF FIRST LINE DRUGS IN CHRONIC KIDNEY DISEASE (CKD)[76]

Drug	Stage 1-3 CKD	Stage 4-5 CKD	Renal transplant recipients
Isoniazid	300 mg daily	300 mg daily or 5 mg/kg max 900 mg 3x/week	300 mg daily
Rifampicin	<50 kg: 450 mg daily >50 kg: 600 mg daily	<50 kg: 450 mg daily >50 kg: 600 mg daily	<50 kg: 450 mg daily >50 kg: 600 mg daily
Pyrazinamide	<50 kg: 1.5 g daily >50 kg: 2 g daily	25-30 mg/kg 3x/week	<50 kg: 1.5 g daily >50 kg: 2 g daily
Ethambutol	15 mg/kg daily	15-25 mg/kg 3x/week (max 2.5 g)	15 mg/kg daily

Treatment of MDR-TB in patients with renal insufficiency also requires dose modifications. MDR-TB patients require aminoglycosides for 6 months or more. In patients with mild renal impairment, the dose of aminoglycosides can be reduced but in the presence of severe renal failure, the aminoglycoside therapy need to be stopped and replaced by other potent non-nephrotoxic anti-TB drugs.[77]

PULOMONARY HYPERTENSION

PH is defined as mean pulmonary artery pressure (mPAP) ≥ 25 mmHg as measured by invasive RHC. Right heart catheterization is essential for accurate diagnosis of PH[78] but usually diagnosis is made by Doppler echocardiography. It is classified as either pre-capillary PH or post-capillary PH. Pre-capillary PH is defined as mean PAP ≥ 25 mmHg

and a mean pulmonary artery wedge pressure (mPAWP) ≤ 15 mmHg and post-capillary PH is defined as a mPAP ≥ 25 mmHg and mPAWP > 15 mmHg.

The World Health Organization (WHO) classifies PH into five categories.

- Pulmonary artery hypertension
- Pulmonary hypertension due to left ventricular dysfunction
- Pulmonary hypertension due to chronic pulmonary diseases
- Chronic thromboembolic Pulmonary hypertension
- Pulmonary hypertension with unclear multifactorial mechanism

Correct classification of PH patients requires the combination of standard imaging techniques including chest roentgenograms, ventilation-perfusion scans, echocardiography, and the 12-lead electrocardiogram. Despite the value of imaging, right heart cardiac catheterization remains the gold standard to classify and to prognosticate the patient.[79] Pulmonary hypertension (PH) is common among patients with chronic kidney disease (CKD) and associated with increased mortality.[80] Presence of CKD is associated with higher all-cause mortality in those patients with pulmonary hypertension as observed in study by Navaneethan et al[81] in which presence of stage 3 CKD and stage 4 CKD was associated with increased mortality in patients with pulmonary hypertension.

A diagnosis of PAH requires the exclusion of all other causes of PH. Several mechanisms have been proposed for the development of PAH in CKD patients.

1.LV Disorders, Volume Overload conditions, hypertension and diabetes mellitus which are the common in patients of CKD also leads to LV diastolic dysfunction, which increases pulmonary venous and arterial pressure.[82] Chronic volume overload and high venous return in patients with CKD induce pulmonary venous hypertension by increasing pulmonary blood flow and affecting LV function

2.Fistula in patients of maintenance haemodialysis leads to decreased systemic vascular resistances, enhanced venous return, and increased cardiac output to maintain adequate blood flow to all

body organs.[9] These adaptations increase pulmonary blood flow which leads to increased pressure at any level of pulmonary vascular resistance that leads to pulmonary hypertension.

3. Exposure to Dialysis Membranes leads to neutrophil activation leading to sequestration of neutrophils in the lung which increase pulmonary artery pressure. This phenomenon is more appreciated when dialysis is performed using cellulosic membranes as observed in study by Ahmet Alper Kiykim et al[83] which observed decrease in postdialysis pulmonary pressure in dialysis patient using high-flux polysulfone filters as compared to cellulose acetate filters.

4. Endothelial dysfunction is a main trigger of pulmonary hypertension. There is a impaired ability of the endothelium to regulate vascular tone in CKD patients due to imbalance between vasoconstrictors (increased levels of endothelin) and vasodilators (decreased generation of nitric oxide).[84] Plasma NO levels are decreased in HD patients with pulmonary hypertension compared with those without pulmonary hypertension.

5. Frequent episodes of nocturnal hypoxia as seen in patients of sleep apnea, are frequent in patients with CKD regardless of whether or not they are maintenance dialysis.[85] Nocturnal hypoxemia is a strong trigger of pulmonary hypertension by activating sympathetic system which increases pulmonary pressure.

TREATMENT

There is high prevalence of LV dysfunction in patients with CKD, that's why most cases of pulmonary hypertension in the CKD patients are WHO class II.[86] therefore as in other patients, mainstay treatment of PH is to treat underlying LV disorders and to maintain appropriate body fluid volume in patients with CKD by diuretics, reducing dietary salt intake, and dialysis as and when required. In patients with CKD with WHO class II pulmonary vasodilator therapy which is used in WHO class I patients should be avoided because it potentially is harmful. [87]

In 2015, Kalpana S. Mehta et al [88] conducted cross sectional study on pulmonary Hypertension in 200 patients of Chronic Kidney Disease

and found that pulmonary artery hypertension was present in 60.5% of the patients with mean pulmonary artery systolic pressure (PASP) of 38.52 ± 7.32 mmHg and prevalence of PH increased as CKD stage advanced and also prevalence and severity of PH increased as duration of CKD increased. In patients on haemodialysis, the prevalence ($p < 0.001$) and severity ($p = 0.022$) of PH was significant compared to those on conservative treatment. In study by M Moniruzzaman et al[89] in 2010 on Pulmonary Hypertension in 70 patients of CKD showed that 68.6% of the patients on maintenance haemodialysis and 8.6% of the prediadysis CKD patients had pulmonary hypertension. Mild pulmonary hypertension was found in 22.9%, moderate and severe pulmonary hypertension was found in 40% and 5.7% respectively. The mean pulmonary arterial systolic pressure (PASP) was 44.1±14.4 mmHg with range from 28 to 80 mmHg in patient on maintenance HD and in patients on conservative management the mean PASP was 28.9±4.1 mmHg with range from 24 to 38 mmHg.

In study by S S Bozbas et al[90] on Pulmonary hypertension in patients with end-stage renal disease, it was found that pulmonary hypertension was present in detected in 85 (17%) patients with a mean SPAP of 46.7 +/- 8.7 mm Hg). It was concluded that PH was a common clinical condition among patients with ESRD evaluated for renal transplantation and a careful preoperative assessment including a comprehensive Doppler echocardiographic examination is needed to identify PH. Magdy M.Emara et al[91] studied prevalence of pulmonary hypertension in patients with chronic kidney disease on and without dialysis. It was found that high prevalence of pulmonary hypertension was seen among 27 patients (41.53%) receiving long-term haemodialysis with a mean systolic PAP of 49.33 ± 9.18 mmHg. PAH was also present in two patients (16.66%) receiving peritoneal dialysis with mean PAP of 43 ± 1.41 mmHg, and in five patients ((22.72%) receiving conservative management with mean PAP of 44.8 ± 5.89 mmHg. Whereas in study by Fabio Fabbian et al[92] in 2007 on prevalance of pulmonary Hypertension in 56 Patients on dialysis, found

that out of 56 patients, pulmonary hypertension was detected in 22 patients, which included 18.5% of PD patients and 58.6% of HD patients.

SLEEP APNEA

Sleep apnea is a common disorder among patients with end-stage renal disease (ESRD). The symptoms of sleep apnea usually go unreported or they may usually misdiagnosed as uremia, depression, chronic illness, or insomnia.[93]

DEFINATION: OSA is defined as ‘‘transient partial or complete upper airway obstruction during sleep which may lead to loud snoring and increased daytime somnolence". An obstructive episode is defined as more than 10 seconds pause in respiration associated with ongoing ventilatory effort leading to intermittent hypoxia. The apnea-hypoxia index (AHI) is usually used to diagnose OSA. AHI >5 per hour is usually sufficient to consider someone as having OSA.[94] Age, male gender, and obesity particularly neck circumference and central adiposity are important risk factors for OSA[95]

CKD may lead to OSA through many mechanisms including alterations in chemoreflex responsiveness, accumulation of uremic toxins and pharyngeal narrowing due to fluid overload.[96]

PREVALANCE AMONG CKD PATIENTS: Sleep apnea occurs in at least 50% to 60% of CKD patients as observed in various studies and prevalence of sleep apnea in CKD patients is observed to be 10 times higher than the prevalence of sleep apnea in the general population.[96]

In 2011 Sakaguchi et al[97] conducted study on prevalence of Obstructive Sleep Apnea and among patients with Chronic Kidney Disease. 100 nondialysis CKD patients regardless of their sleep complaints were taken for study and diagnosis of OSA and its severity were measured using a type 3 portable monitor. It was observed that 65% were diagnosed as OSA, mild OSA (AHI- 5.0 to 14.9) was seen in 32%, moderate OSA (AHI 15.0 to 29.9) in 25%, and severe OSA (AHI ≥ 30.0) was seen in 8%. In study by Hsin-Chia Huang et al [98] on sleep apnea prevalence among patients with chronic kidney disease, it was observed that among 57 participants which were taken for study,

Apnea hypopnea index ≥30/h was found in 66% of haemodialysis and 54% of non-dialysis participants.[6] In study by David Nicholl et al[99] on prevalence of sleep apnea and nocturnal hypoxia in CKD patients, 254 patients were taken for study. It was observed that prevalence of sleep apnea increases as eGFR declines.

SYMPTOMS: There occurs excessive daytime sleepiness in patients with OSA. Daytime hyper somnolence occurs despite seemingly appropriate sleep duration due to diminished sleep quality. Apneic events may also occur during sleep that patients may not be aware of. Other symptoms includes fatigue, difficulty concentrating, and headaches.[100]

DIAGNOSIS: All patients with history of snoring, excessive daytime sleepiness should be evaluated thoroughly with sleep questionnaires, arterial blood gas analysis and polysomnography.

MANAGEMENT: Management of OSA in CKD is mainly by non-invasive ventilation-CPAP or BIPAP as required and maintenance haemodialysis as required. In patients with CKD, particularly on maintenance haemodialysis, fluid overload plays an important role in the pathogenesis of OSA and fluid removal by ultrafiltration leads to marked improvements in sleep apnea severity.[101]

MATERIALS AND METHODS

This cross–sectional study was carried out on patients admitted in Department of Medicine, Department of Nephrology, Department of Pulmonary Medicine and the other allied specialties of Medicine, Dayanand Medical College and Hospital, Ludhiana over a 15 months period.

Selection of study patients

INCLUSION CRITERIA

- Diagnosed patients of chronic kidney disease [stage 3, stage 4, stage 5D] (based upon KDIGO 2012 clinical practice guidelines) not on haemodialysis and patients of chronic kidney disease on maintenance haemodialysis/CAPD [stage 5D] presenting with respiratory complaints and in whom the respiratory diagnosis was established during hospital stay were enrolled for the study.
- Age 18 years or more.

EXCLUSION CRITERIA

- Those who were not willing to participate in the study.
- Age less than 18 years.
- Patients of CKD who had undergone renal transplantation.
- Pregnant women.

Diagnosed patients of chronic kidney disease not on haemodialysis [stage 3. stage 4, stage 5] and chronic kidney disease patients on maintenance haemodialysis/CAPD [stage 5D] who were admitted with respiratory complaints and in whom the specific respiratory diagnosis was established during hospital stay were enrolled for the study. These patients formed 2 groups viz: chronic kidney disease patients not on haemodialysis and chronic kidney disease patients on maintenance haemodialysis:

Group A: Chronic Kidney Disease patients with CKD stage 3, stage 4, stage 5ND were taken in this group.

Group B: Chronic kidney disease patients on maintenance haemodialysis/CAPD for at least 3 months [stage 5D] were taken in this group.

CRITERIA TO DEFINE CKD (based upon KDIGO 2012 clinical practice guidelines)

1. Duration of disease >3 months based upon documentation or inference

2. GFR <60 ml/min/1.73m^2

3. Kidney damage as defined by structural abnormalities or functional abnormalities other than decreased GFR

- Albuminuria as a marker of kidney damage [AER≥30mg/24 hours]
- Urine sediment abnormalities as markers of kidney damage
- Renal tubular disorders
- Pathological abnormalities detected by histology or inferred
- Structural abnormalities as marker of kidney damage as detected by imaging
- History of renal transplantation

CKD STAGING was done based upon GFR as described by KDIGO 2012 clinical practice guidelines.

CKD STAGE	**DESCRIPTION**	**GFR(ml/min/1.73m^2)**
1	Kidney damage with normal GFR	≥90
2	Kidney damage with mild decrease in GFR	89-60
3a	Mild to moderate decrease in GFR	59-45
3b	Moderate decrease in GFR	45-30
4	Severe decrease in GFR	30-15
5ND	Kidney failure	<15 and not on dialysis
5D	Kidney failure	On dialysis

GFR was calculated by CKD-EPI creatinine equation.

CKD patients presenting with respiratory complaints such as dyspnea, cough, orthopnea, PND, chest pain, wheezing, haemoptysis, etc in

both the groups were evaluated. Detailed history was taken and complete physical examination was carried out.

Investigations such as CBC, RFT, LFT, Calcium, Magnesium, Phosphorus, Urine analysis etc were noted. Relevant investigations such as chest roentgenogram, computed tomography chest, pleural fluid analysis, 2D echo, sputum analysis, pulmonary functions test, BNP levels etc. which were done to establish the respiratory diagnosis was noted.

The spectrum of pulmonary involvement was compared between patients of CKD not on haemodialysis and those who were on maintenance haemodialysis and also between patients with different stages of CKD. Spectrum was also compared between patients with duration of CKD less than 1 year and duration more than 1 year.

Frequency of haemodialysis advised, actual frequency of haemodialysis done, and compliance of haemodialysis and any complications which occurs during haemodialysis was noted. Outcome of the patient at the end of the hospital stay-Discharge/DAMA/Death was noted

STATISTICAL ANALYSIS Data was described in terms of range; mean ± standard deviation (± SD), median, frequencies (number of cases) and relative frequencies (percentages) as appropriate. All statistical calculations was done using SPSS (Statistical Package for the Social Science) SPSS 21 version statistical program for Microsoft Windows. For comparing categorical data, Chi square test was performed and exact test was used when the expected frequency was less than 5. A probability value (p value) less than 0.05 was considered statistically significant.

OBSERVATIONS AND RESULTS

This cross-sectional study was carried out in patients admitted in the Department of Medicine, Department of Nephrology, Department of Chest and other Allied Specialties of Medicine of Dayanand Medical College and Hospital, Ludhiana. 182 patients of Chronic kidney disease admitted with respiratory complaints and in whom a respiratory diagnosis was established during hospital stay were included in our study.

TABLE 5: AGE WISE DISTRIBUTION OF THE CASES

AGE (in years)	No. of cases	Percentage
<30	4	2.2%
31-40	2	1.1%
41-50	27	14.8%
51-60	56	30.8%
61-70	65	35.7%
71-80	23	12.6%
>80	5	2.7%
Total	182	100.0%

In our study, maximum patients were in the age group 61-70 years; 65 (35.7%) patients. There were 27 (14.8%) patients in the age group 41-50 years, 56 (30.8%) in the age group 51-60 and 23 (12.6%) in age group 71-80. The mean age was 60.22 ± 11.01 years.

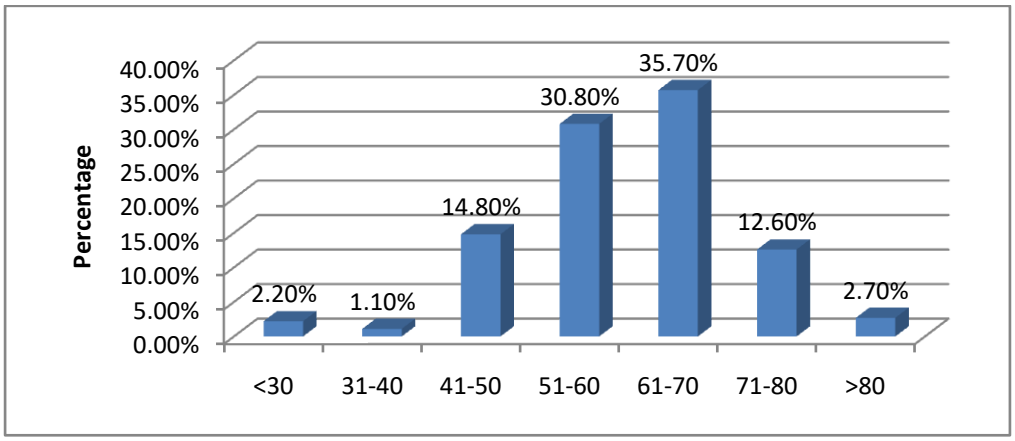

FIGURE 2: AGE WISE DISTRIBUTION OF THE CASES

TABLE 6: SEX WISE DISTRIBUTION OF CASES

GENDER	No. of cases	Percentage
MALE	113	62.1%
FEMALE	69	37.9%
Total	182	100.0%

Out of total 182 patients, 113 (62.1%) patients were males and rest 69 (37.9%) patients were females.

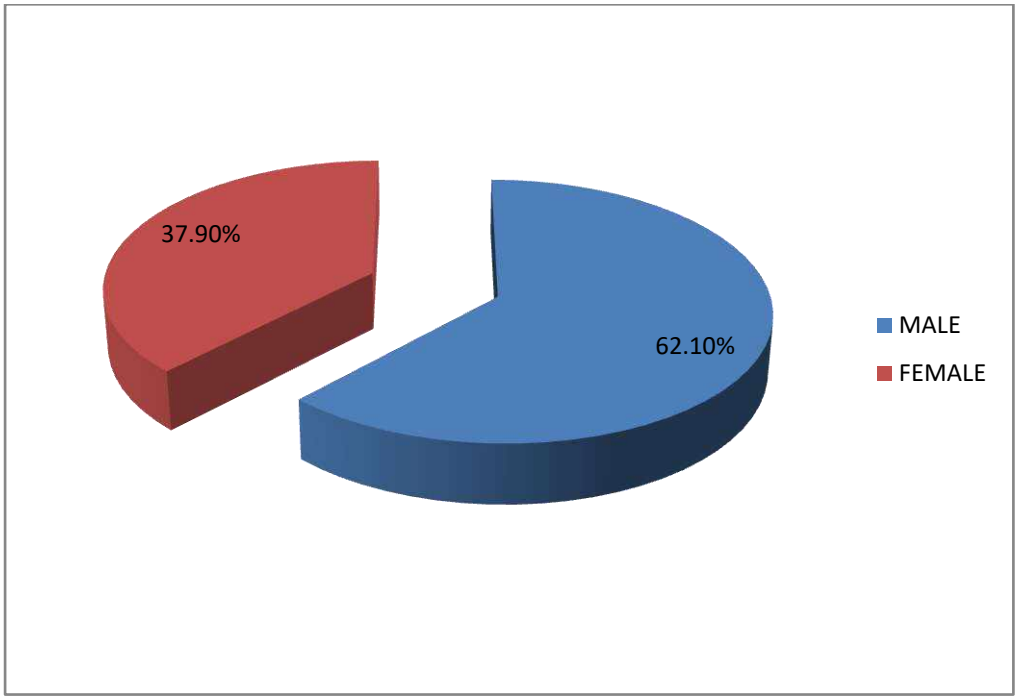

FIGURE 3: SEX WISE DISTRIBUTION OF CASES

TABLE 7: ETIOLOGY OF CKD

ETIOLOGY OF CKD	No. of cases	Percentage
DIABETES MELLITUS	152	83.5%
HYPERTENSIVE NEPHROPATHY	16	8.8%
CHRONIC GLOMERULONEPHRITIS	7	3.8%
NSAID INDUCED NEPHROPATHY	3	1.6%
IGA NEPHROPATHY	2	1.1%
ADPKD	2	1.1%
Total	182	100.0%

In our study, most common etiology of CKD was diabetes mellitus which was seen in 152 (83.5%) patients. Hypertensive nephropathy was present in 16 (8.8%) patients, chronic glomerulonephritis in 7 (3.8%) patients, NSAID induced nephropathy in 3 (1.6%) patients, IGA nephropathy and ADPKD in 2 (1.1%) patients each.

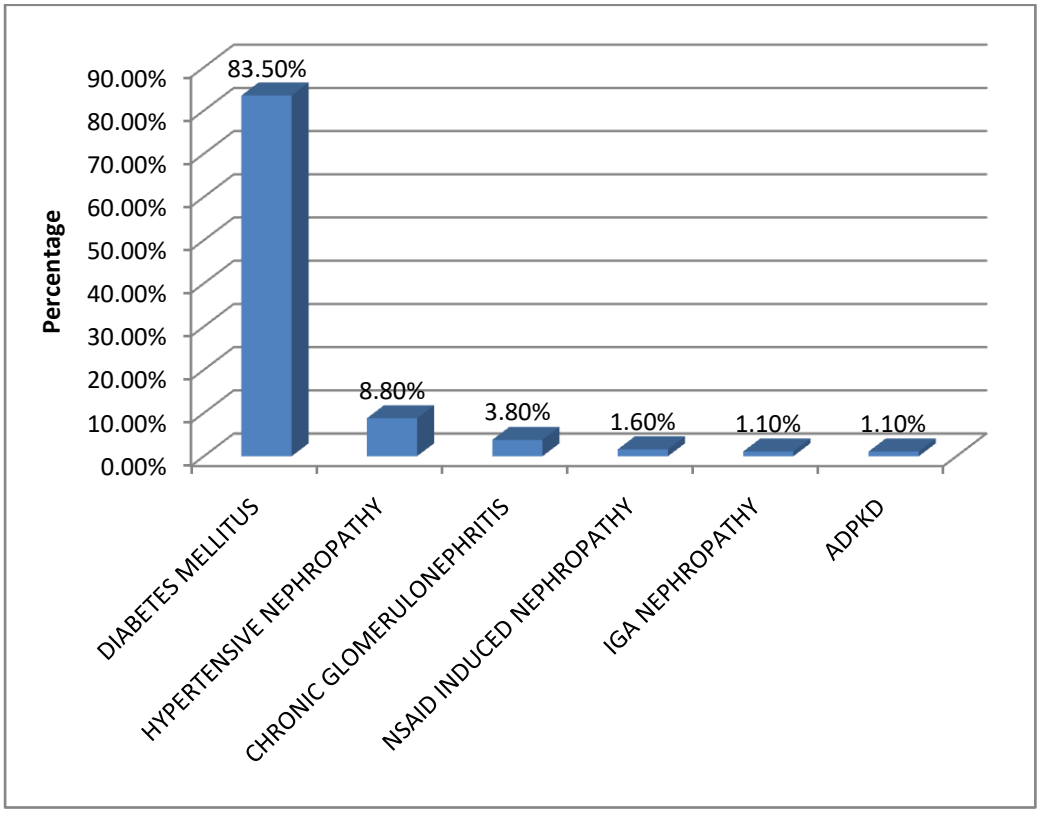

FIGURE 4: ETIOLOGY OF CKD

TABLE 8: DURATION OF CHRONIC KIDNEY DISEASE

Duration of CKD	No. of cases	Percentage
<1 year	93	51.1%
>1 year	89	48.9%
Total	182	100.0%

Out of total of 182 patients, duration of CKD was less than 1 year in 93 (51.0%) patients and more than 1 year in 89 (49.0%) patients.

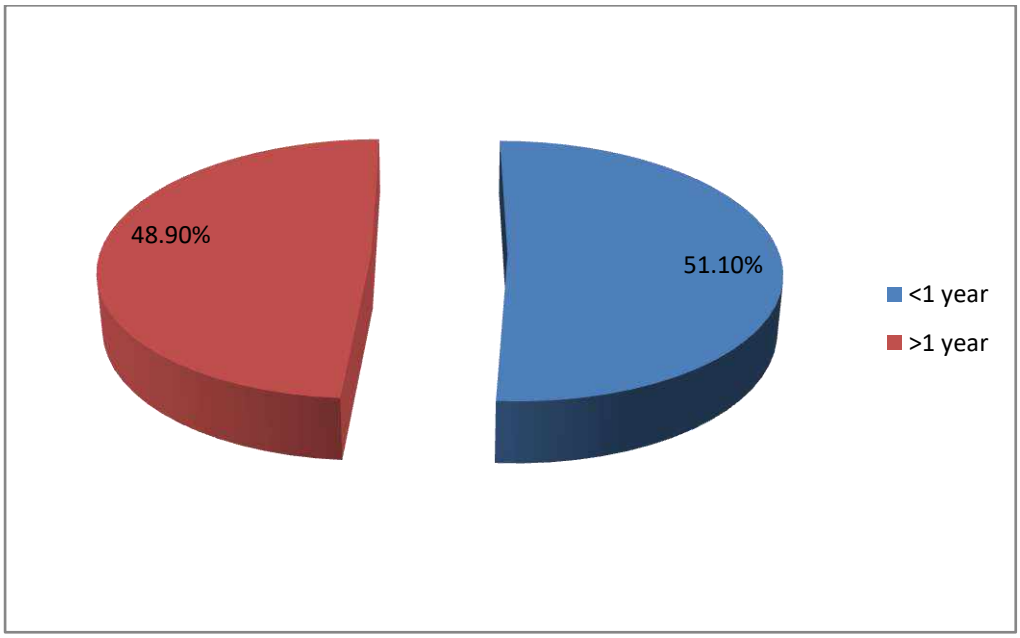

FIGURE 5: DURATION OF CHRONIC KIDNEY DISEASE

TABLE 9: STAGES OF CHRONIC KIDNEY DISEASE

STAGE OF CKD	No. of cases	Percentage
3a	8	4.4%
3b	20	11.0%
4	68	37.4%
5	41	22.5%
5D	45	24.7%
Total	182	100.0%

Out of 182 patients, maximum patients were of stage 4 CKD, 68 (37.4%) patients.

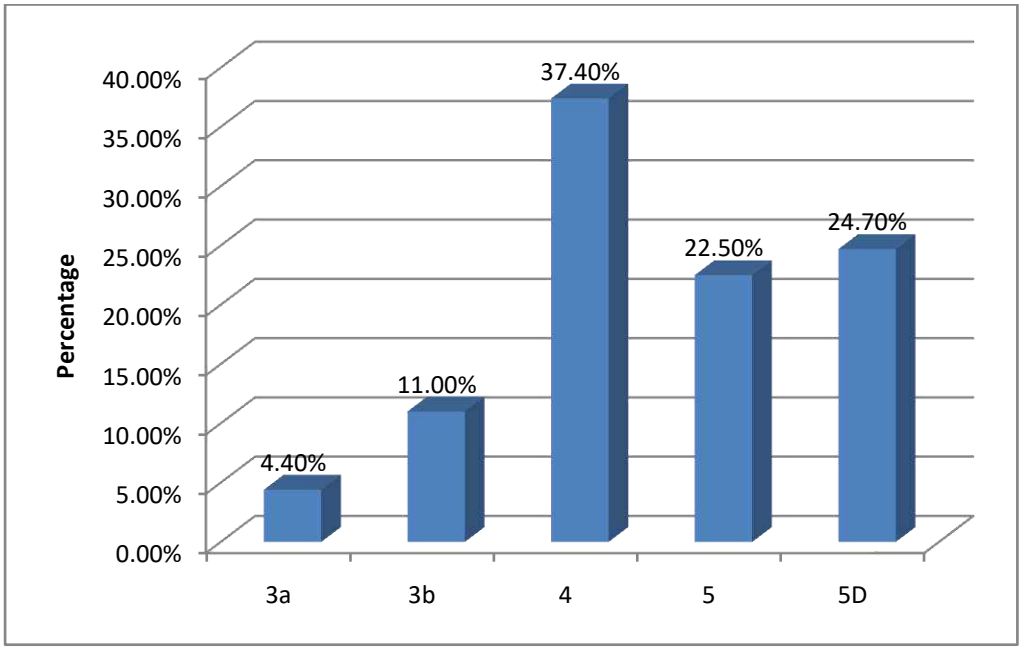

FIGURE 6: STAGES OF CHRONIC KIDNEY DISEASE

TABLE 10: DISTRIBUTION OF PATIENTS ON MAINTENANCE DIALYSIS

ON MAINTENANCE DIALYSIS	No. of cases	Percentage
No	137	75.3%
Yes	45	24.7%
Total	182	100.0%

In our study, out of 182 patients, 45 (24.7%) patients were on maintenance dialysis and rest 137 (75.3%) were not on maintenance dialysis.

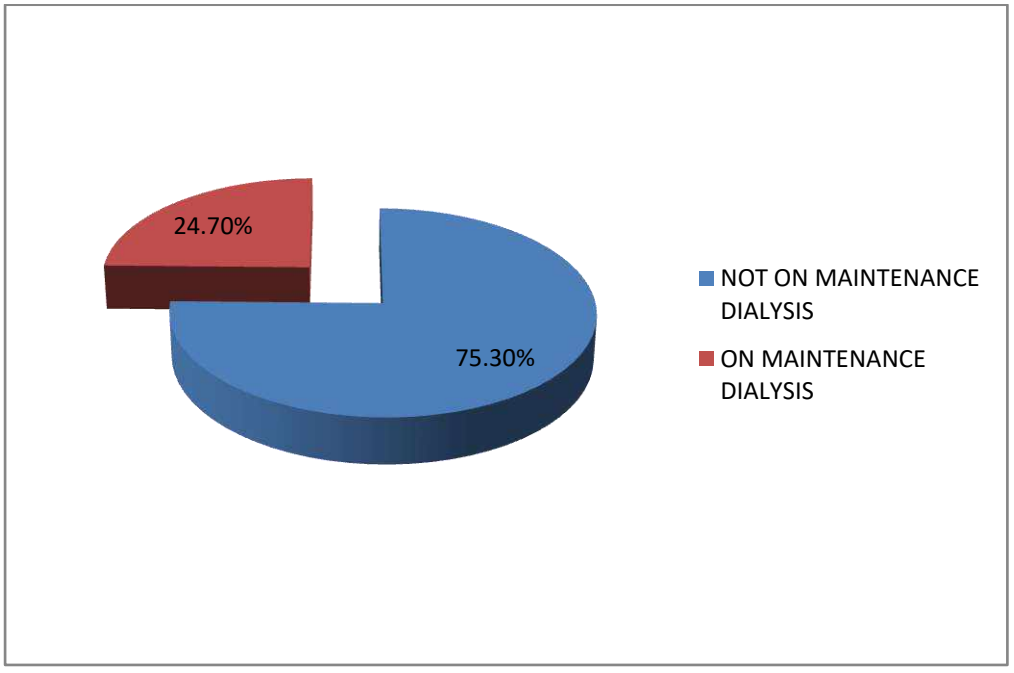

FIGURE 7: DISTRIBUTION OF PATIENTS ON MAINTENANCE DIALYSIS

TABLE 11: DISTRIBUTION OF FREQUENCY OF MAINTENANCE DIALYSIS ADVISED

FREQUENCY OF DIALYSIS ADVISED	No. of cases	Percentage
Once a week	11	24.4%
Twice a week	29	64.5%
Thrice a week	5	11.1%
Total	45	100.0%

Out of 45 patients on maintenance dialysis, 11 patients were advised once a week, 29 patients twice a week and 5 patients were advised thrice a week dialysis.

TABLE 12: DISTRIBUTION OF CKD STAGE 5D PATIENTS TO COMPLIANCE TO DIALYSIS

COMPLIANCE TO DIALYSIS	No. of cases	Percentage
Yes	21	46.66%
No	24	53.33%
Total	45	100.0%

Out of 45 patients on maintenance dialysis, 21 (46.6%) patients were compliant to the advised frequency of maintenance dialysis and rest 24 (53.3%) patients were not compliant to the advised frequency of maintenance dialysis.

TABLE 13: PRESENTING COMPLAINT OF THE CASES (n=182)

PRESENTING COMPLAINT	No. of cases	Percentage
Dyspnea	158	86.8%
Chest pain	12	6.6%
Cough	87	47.8%
Sputum production	63	34.1%
Pedal edema	101	55.5%
Fever	52	28.6%
Haemoptysis	0	0.0%
Hiccough	0	0.0%

In our study, most common presenting complaint of patients was dyspnea which was seen in 158 (86.8%) patients, followed by pedal edema in 101 (55.5%), cough in 87 (47.8%), sputum production in 63 (34.1%), chest pain in 12 (6.6%) and fever in 52 (28.6%) patients. None of the patients presented with haemoptysis or hiccough.

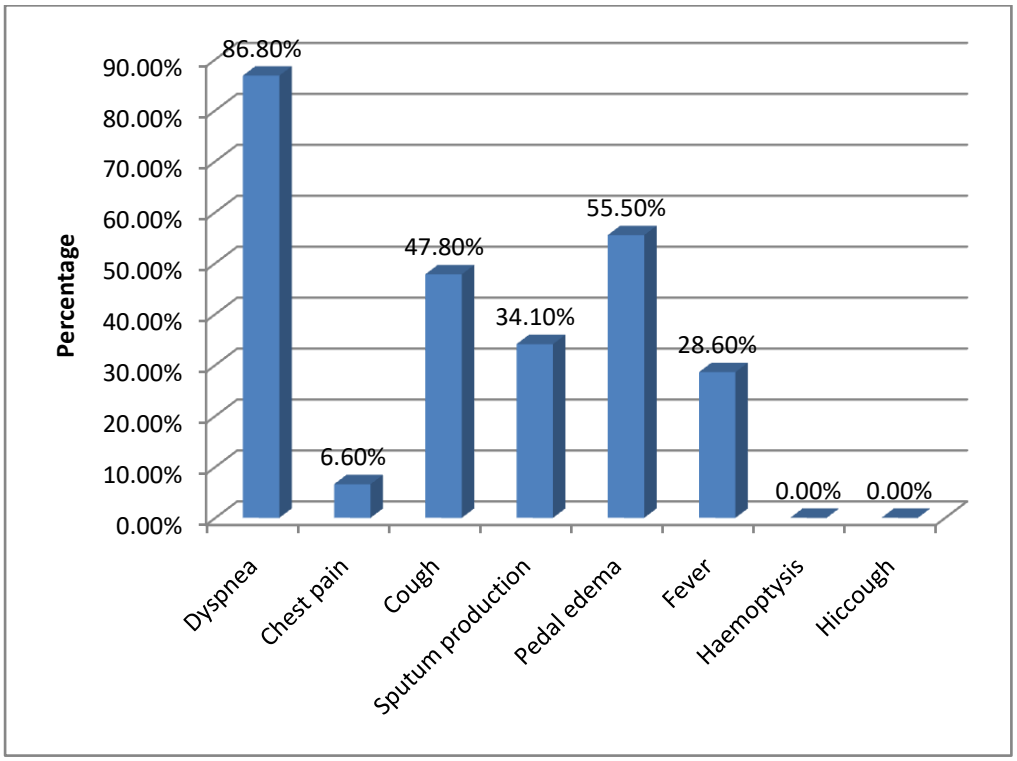

FIGURE 8: PRESENTING COMPLAINT OF THE CASES

TABLE 14: VARIOUS CO-MORBIDITIES OF THE PATIENTS (n=182)

CO-MORBIDITIES	No. of cases	Percentage
Diabetes mellitus	152	83.5%
Hypertension	117	64.3%
Coronary artery disease	46	25.3%
COPD/Bronchial asthma	16	8.8%
Hypothyroidism	11	6.0%
Malignancy	2	1.1%
SLE	1	0.5%
APLA syndrome	1	0.5%
IGA vasculitis	2	1.1%

In our study, most common co-morbidity was diabetes mellitus which was seen in 152 (83.5%) patients out of total of 182 patients. Other co-morbidities were hypertension in 117 (64.3%) patients, coronary artery disease in 46 (25.3%), chronic obstructive airway disease in 16 (8.8%), hypothyroidism in 11 (6.0%), malignancy and IgA vasculitis in 2 (1.1%) patients each and 1 patient each had SLE and APLA syndrome.

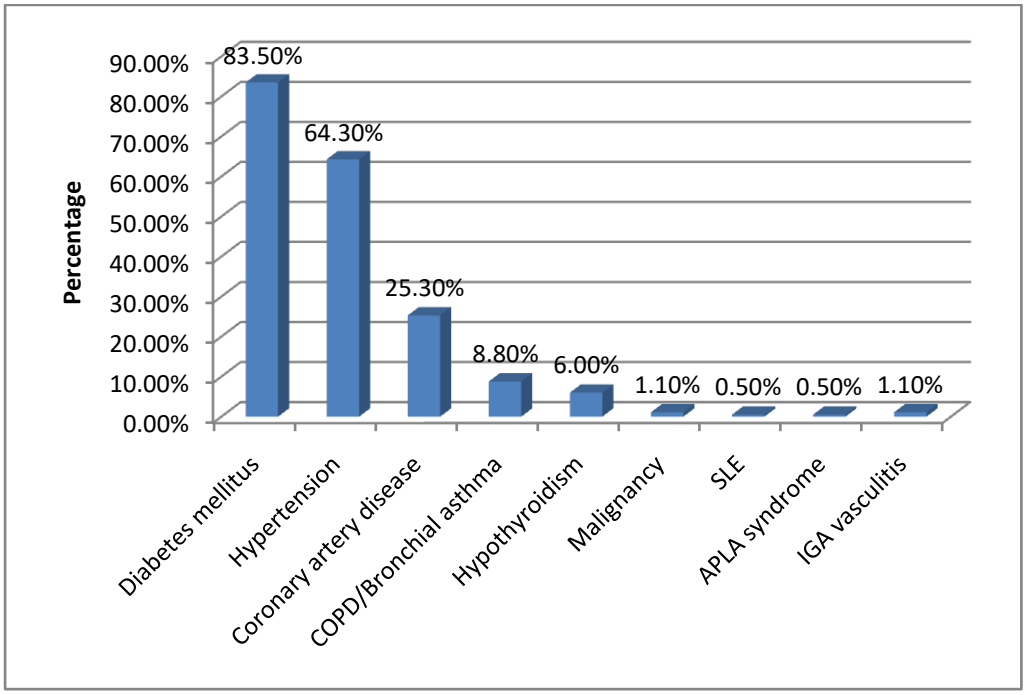

FIGURE 9: VARIOUS CO-MORBIDITIES OF THE PATIENTS

TABLE 15: CHEST X-RAY FINDINGS OF PATIENTS (n=182)

CHEST X-RAY FINDINGS	No. of cases	Percentage
Cardiomegaly	49	26.9%
Pleural Effusion	116	63.7%
Pulmonary Edema	126	69.2%
Consolidation	53	29.1%
Hyperinflated Lungs	12	6.6%
Pulmonary Hypertension	4	2.2%
Pleural Thickening	5	2.7%
Pulmonary Calcification	3	1.6%
Cavitary Lesion	1	0.5%
Pulmonary Infiltrates	3	1.6%

In our study, most common chest x-ray finding was pulmonary edema which was seen in 126 (69.2%) patients, followed by pleural effusion in 116 (63.7%) patients, consolidation in 60 (33%), cardiomegaly in 49 (26.9%), hyperinflated lungs in 12 (6.6%), pleural thickening in 5 (2.7%), pulmonary hypertension in 4 (2.2%), pulmonary calcification and pulmonary infiltrates in 3 (1.6%) patients each.

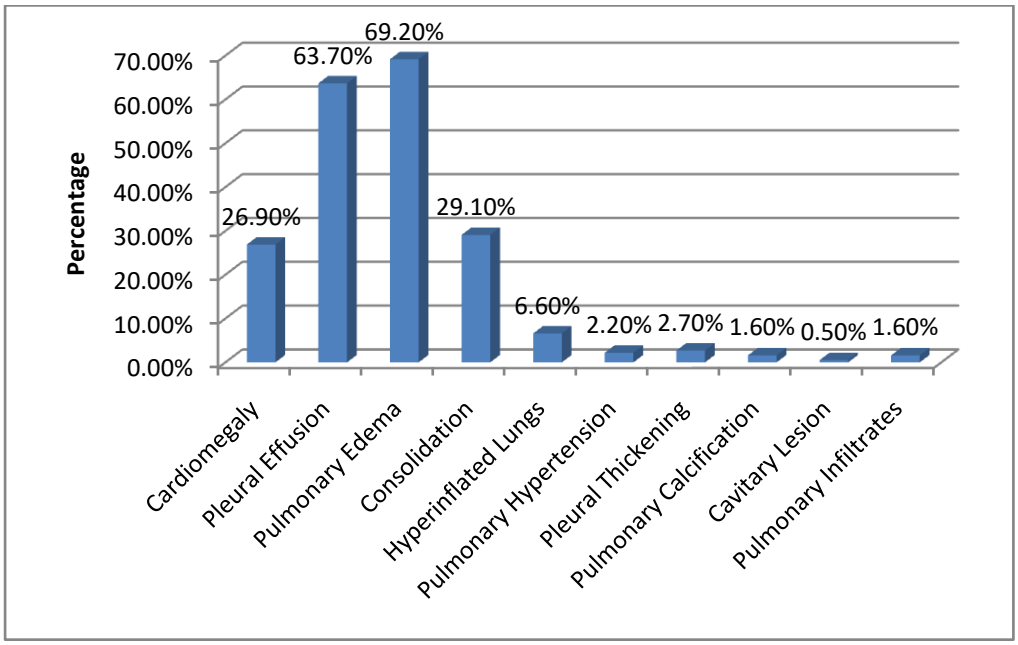

FIGURE 10: CHEST X-RAY FINDINGS OF PATIENTS

TABLE 16: CT SCAN FINDINGS OF PATIENTS (n=16)

CT FINDINGS	No. of cases	percentage
Pulmonary edema	2	12.5%
Pleural effusion	12	75.0%
Consolidation	11	68.7%
Hyperinflated lungs	1	6.25%
Pulmonary infiltrates	1	6.25%
Pulmonary calcification	1	6.25%

In our study, CT chest was done in 16 patients. Pulmonary edema was present in 2 (12.5%) patients, pleural effusion in 12 (75.0%) patients, consolidation in 11 (68.7%), hyperinflated lungs, pulmonary infiltrates and pulmonary calcification in 1 patient each.

TABLE 17: DIFFERENT RESPIRATORY MANIFESTATIONS OF CHRONIC KIDNEY DISEASE PATIENTS IN OUR STUDY GROUP (n=182)

	RESPIRATORY MANIFESTATIONS	**No. of cases**	**Percentage**
PARENCHYMAL INVOLVEMENT	PULMONARY EDEMA	126	69.2%
	PNEUMONIA	60	32.9%
	PULMONARY KOCH'S	2	1.1%
PLEURAL EFFUSION	FLUID OVERLOAD	80	43.9%
	PARAPNEUMONIC	26	14.2%
	TUBERCULAR	4	2.1%
	EMPYEMA	3	1.6%
	URAEMIC	3	1.6%
WORSENING OF PRE-EXISTING OBSTRUCTIVE AIRWAY DISEASE		13	7.1%
PULMONARY VASCULAR DISEASE	PULMONARY HYPERTENSION (n=167)	46	27.5%
	PULMONARY EMBOLISM	0	0%

In our study, most common parenchymal manifestation was pulmonary edema which was seen in 126 (69.2%) patients and pneumonia and pulmonary koch's was present in 60 (32.9%) patients and 2 (1.1%) patients respectively.

Pleural effusion was present in 116 (63.7%) patients out of which the most common cause of pleural effusion was fluid overload which was seen in 80 patients. Other causes of pleural effusion were parapneumonic in 26 patients, tubercular in 4 patients, empyema in 3 patients and uraemia in 3 patients.

Worsening of pre-existing obstructive airway disease was seen in 13 patients (7.1%).

Among the pulmonary vascular disease, pulmonary hypertension was present in 46 patients out of 167 patients in which echocardiography

were done. However, pulmonary embolism was not seen in any patient in our study.

Out of 126 patients with pulmonary edema, 80 patients also had transudative pleural effusion due to fluid overload.

Among 60 patients with pneumonia, 26 patients had associated parapneumonic pleural effusion and 3 patients had empyema. Also, 15 patients of pneumonia in addition had pulmonary edema.

10 patients who presented with worsening of pre-existing obstructive airway disease also had pneumonia.

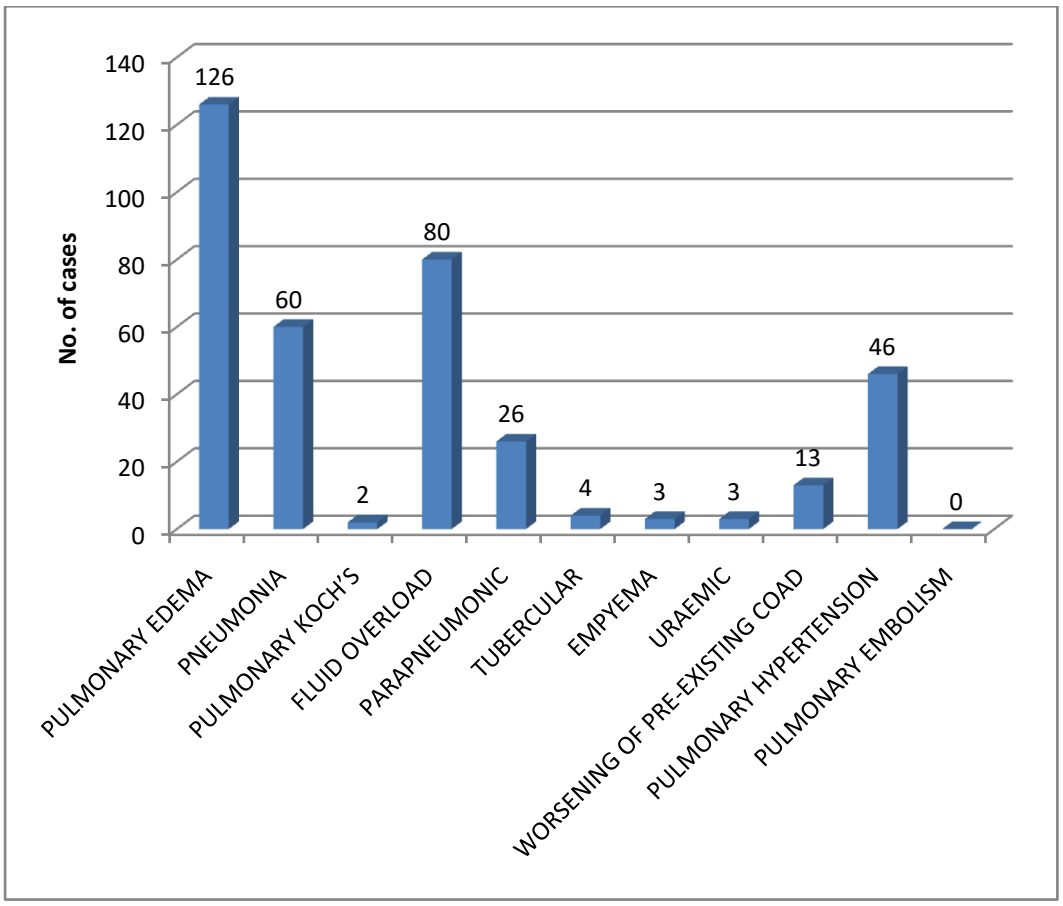

FIGURE 11: DIFFERENT RESPIRATORY MANIFESTATIONS OF CHRONIC KIDNEY DISEASE PATIENTS IN OUR STUDY GROUP

TABLE 18: COMPARISON OF PARENCHYMAL MANIFESTATIONS BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

		ON MAINTENANCE DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
PULMONARY EDEMA	Present	32	71.1%	94	68.6%	126	0.099	0.753
	Absent	13	28.9%	43	31.4%	56		
	Total	45	100%	137	100%	182		
PNEUMONIA	Present	9	20.0%	51	37.2%	60	4.549	0.033
	Absent	36	80.0%	86	62.8%	122		
	Total	45	100%	137	100%	182		
TUBERCULOSIS	Present	0	0.0%	2	1.5%	2	0.664	0.415
	Absent	45	100%	135	98.5%	180		
	Total	45	100%	137	100%	182		

In our study, pneumonia was more common among patients not on maintenance dialysis (37.2%) as compared to patients on maintenance dialysis (20.0%) and was statistically significant.

There was no statistically significant difference of pulmonary edema and tuberculosis between patients on and not on maintenance dialysis.

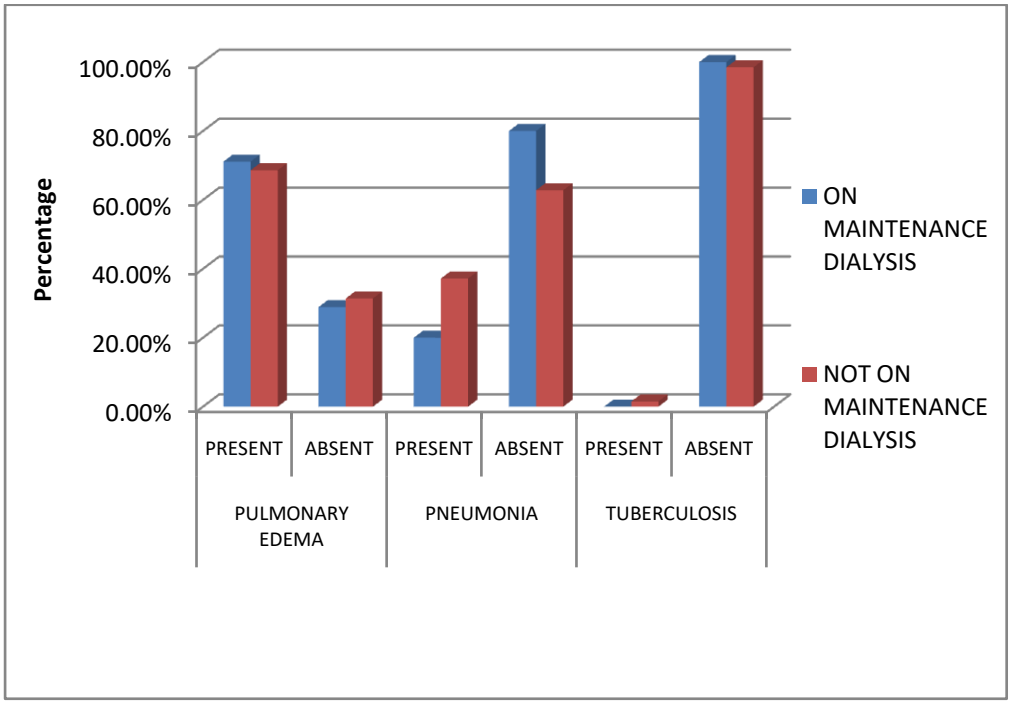

FIGURE 12: COMPARISON OF PARENCHYMAL MANIFESTATIONS BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

TABLE 19: COMPARISON OF PARENCHYMAL MANIFESTATIONS BETWEEN PATIENTS WITH DIFFERENT STAGES OF CKD

		STAGE OF CKD								Total
		3		4		5		5D		
PULMONARY EDEMA	Present	17	60.7%	43	63.2%	34	82.9%	32	71.1%	126
	Absent	11	39.3%	25	36.8%	7	17.1%	13	28.9%	56
	Total	28	100.0%	68	100.0%	41	100.0%	45	100.0%	182
PNEUMONIA	Present	13	46.4%	27	39.7%	11	26.8%	9	20.0%	60
	Absent	15	53.6%	41	60.3%	30	73.2%	36	80.0%	122
	Total	28	100.0%	68	100.0%	41	100.0%	45	100.0%	182
TB	Present	0	0.0%	1	1.5%	1	2.4%	0	0.0%	2
	Absent	28	100.0%	67	98.5%	40	97.6%	45	100.0%	180
	Total	28	100.0%	68	100.0%	41	100.0%	45	100.0%	182

Pneumonia was more common in patients with stage 3 (46.4%) and stage 4 (39.7%) as compared to patients with other stages and tuberculosis was more common in patients with stage 4 (1.5%) and 5 (2.4%) as compared to patients with other stages. Pulmonary edema was most common in patients of CKD stage 5.

TABLE 20: COMPARISON OF PARENCHYMAL MANIFESTATIONS BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

		COMPLIANCE TO DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
PULMONARY EDEMA	Present	11	52.4%	21	87.5%	32	6.724	0.019
	Absent	10	47.6%	3	12.5%	13		
	Total	21	100%	24	100.0%	45		
PNEUMONIA	Present	7	33.3%	2	8.3%	9	4.375	0.061
	Absent	14	66.7%	22	91.7%	36		
	Total	21	100%	24	100.0%	45		
TB	Present	0	0%	0	0%	0		
	Absent	21	100%	24	100.0%	45		
	Total	21	100%	24	100.0%	45		

In our study, pulmonary edema was statistically significant more common among patients who were not compliant to dialysis (87.5%) as compared to patients who were compliant to dialysis (52.4%).

Pneumonia was more common in patients who were compliant to maintenance dialysis (33.3%) as compared to patients who were not compliant to dialysis (8.3%) but was not statistically significant.

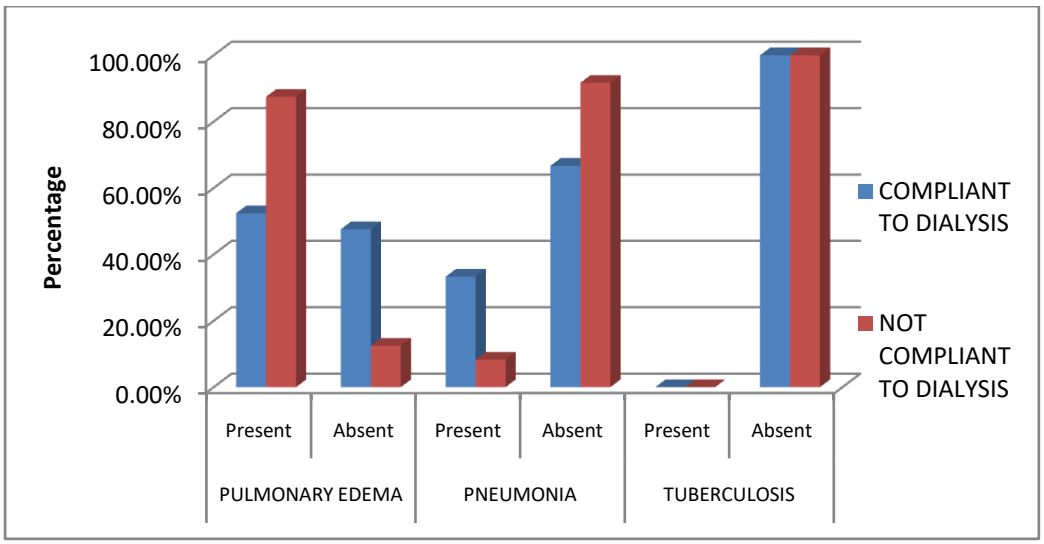

FIGURE 13: COMPARISON OF PARENCHYMAL MANIFESTATIONS BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

TABLE 21: COMPARISON OF PARENCHYMAL MANIFESTATIONS BETWEEN PATIENTS WITH DURATION OF CKD

		DURATION OF CKD				Total	Chi-square value	p-value
		<1 year		>1year				
PULMONARY EDEMA	Present	71	76.3%	55	61.8%	126	4.517	0.038
	Absent	22	23.7%	34	38.2%	56		
	Total	93	100%	89	100%	182		
PNEUMONIA	Present	34	36.6%	26	29.2%	60	1.110	0.292
	Absent	59	63.4%	63	70.8%	122		
	Total	93	100%	89	100.0%	182		
TB	Present	0	0.0%	2	2.2%	2	2.113	0.146
	Absent	93	100%	87	97.8%	180		
	Total	93	100%	89	100.0%	182		

Pulmonary edema was more common among CKD patients with duration less than 1 year (76.3%) as compared to patients with duration more than 1 year (61.8%) and was statistically significant.

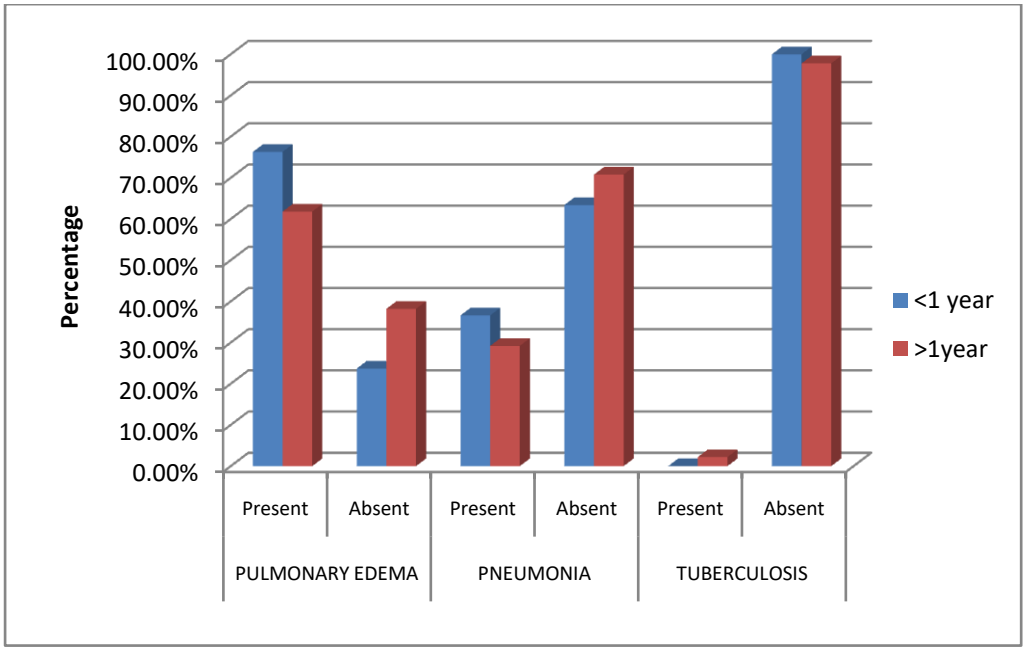

FIGURE 14: COMPARISON OF PARENCHYMAL MANIFESTATIONS BETWEEN PATIENTS WITH DURATION OF CKD

TABLE 22: ORGANISMS ISOLATED IN SPUTUM ANALYSIS IN PATIENTS OF PNEUMONIA

CAUSATIVE ORGANISM	No. of cases	Percentage
Klebsiella pneumoniae	12	20.0%
E.coli	5	8.3%
Pseudomonas aeruginosa	4	6.7%
Acinetobacter baumannii	3	5.0%
Streptococcus pneumoniae	3	5.0%
Staphylococcus aureus	1	1.7%
Candida	1	1.7%
No growth obtained	31	51.7%
Total	60	100.0%

Among 60 patients with pneumonia, sputum analysis was done in all 60 patients. In most of patients (n=31), no growth was obtained. Most common organism isolated was Klebsiella pneumoniae which was seen in 20% (n=12) patients followed by E.coli in 8.3% cases. Growth of streptococcus pneumoniae was seen in 5.0% (n=3) patients.

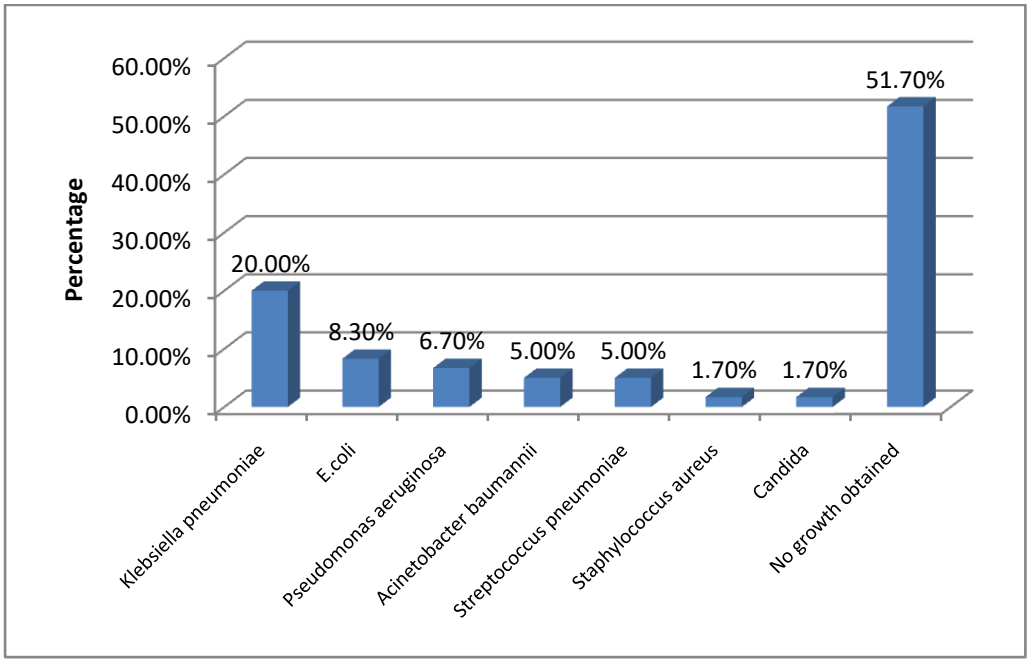

FIGURE 15: ORGANISMS ISOLATED IN SPUTUM ANALYSIS IN PATIENTS OF PNEUMONIA

TABLE 23: COMPARISON OF PULMONARY AND EXTRAPULMONARY TUBERCULOSIS BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

		ON MAINTENANCE DIALYSIS				Total	Chi-square value	p-value
		Yes		No				
TB	Present	3	6.6%	3	2.1%	6	2.13	0.144
	Absent	42	93.3%	134	97.9%	176		
	Total	45	100.0%	137	100.0%	182		

Tuberculosis (pulmonary and extrapulmonary tuberculosis) was more common among patients on maintenance dialysis (6.6%) as compared to patients not on maintenance dialysis (2.1%) but was not statistically significant.

TABLE 24: COMPARISON OF PULMONARY AND EXTRAPULMONARY TUBERCULOSIS BETWEEN PATIENTS WITH DIFFERENT STAGES OF CKD

		STAGE OF CKD								Total
		3		4		5		5D		
TB	Present	1	3.6%	1	1.5%	1	2.4%	3	6.6%	6
	Absent	27	96.4%	67	98.5%	40	97.6%	42	93.3%	176
	Total	28	100%	68	100%	41	100%	45	100%	182

Tuberculosis (pulmonary and extrapulmonary tuberculosis) was more common among patients with CKD stage 5D (6.6%) as compared to patients with other stages.

TABLE 25: COMPARISON OF PULMONARY AND EXTRAPULMONARY TUBERCULOSIS BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

		COMPLIANCE TO DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
TB	Present	2	9.5%	1	4.2%	3	0.517	0.472
	Absent	19	90.5%	23	95.8%	42		
	Total	21	100.0%	24	100.0%	45		

Among 3 patients with tuberculosis in stage 5D, 2 were found in patients who were compliant to dialysis and 1in patient who was not compliant to dialysis. Tuberculosis (pulmonary and extrapulmonary tuberculosis) was more common among patients who were compliant to dialysis (9.5%) but was not statistically significant.

TABLE 26: COMPARISON OF PULMONARY AND EXTRAPULMONARY TUBERCULOSIS BETWEEN PATIENTS WITH DURATION OF CKD

		DURATION OF CKD				Total	Chi-square value	p-value
		<1 year		>1year				
TB	Present	1	1.1%	5	5.6%	6	2.94	0.086
	Absent	92	98.9%	84	94.4%	176		
	Total	93	100.0%	89	100.0%	182		

Tuberculosis (pulmonary and extrapulmonary tuberculosis) was more common among patients with duration of CKD more than 1 year (5.6%) as compared to patients with duration of CKD less than 1 year (1.1%) but was not statistically significant.

TABLE 27: COMPARISON OF LEFT VENTRICULAR FUNCTION BETWEEN PATIENTS OF PULMONARY EDEMA AND PATIENTS WITHOUT PULMONARY EDEMA

		PULMONARY EDEMA				Total	Chi-square value	p-value
		PRESENT		ABSENT				
LV dysfunction	Present	72	57.1%	15	36.6%	87	5.238	0.022
	Absent	54	42.9%	26	63.4%	80		
	Total	126	100.0%	41	100.0%	167		

Echocardiography was done in 167 patients of our study group. Total of 87 patients (52.0%) out of 167 had left ventricular dysfunction. Out of 126 patients with pulmonary edema, left ventricular dysfunction was present in 72 (57.1%) patients and out of 41 other patients who did not have pulmonary edema, left ventricular dysfunction was present in 15 (36.1%) patients. Thus, left ventricular dysfunction was more common among patients with pulmonary edema as compared to patients without pulmonary edema and was statistically significant.

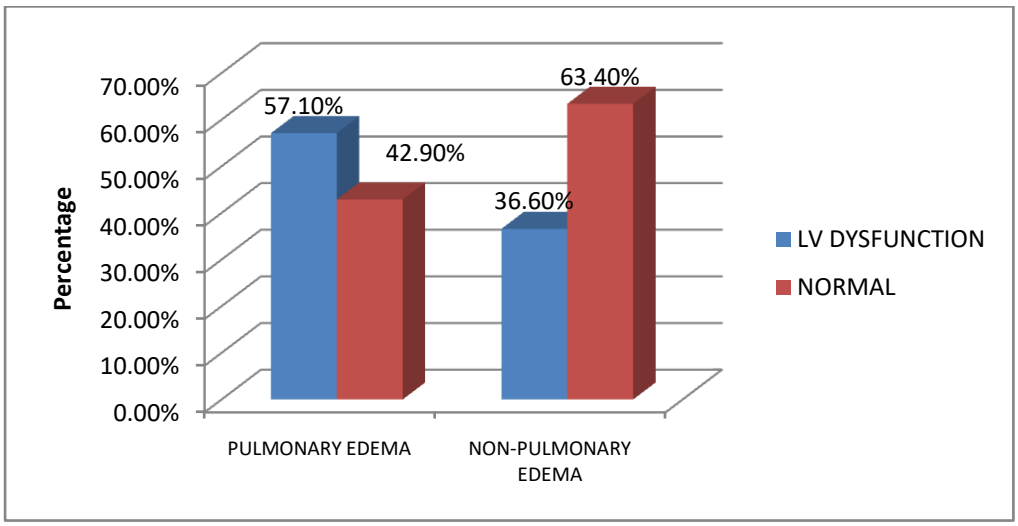

FIGURE 16: COMPARISON OF LEFT VENTRICULAR FUNCTION BETWEEN PATIENTS OF PULMONARY EDEMA AND PATIENTS WITHOUT PULMONARY EDEMA

TABLE 28: COMPARISON OF TYPE OF LEFT VENTRICULAR DYSFUNCTION BETWEEN PATIENTS OF PULMONARY EDEMA AND PATIENTS WITHOUT PULMONARY EDEMA

		PULMONARY EDEMA				Total	Chi-square value	p-value
		PRESENT		ABSENT				
Type of LV dysfunction	Systolic	60	83.3%	8	53.3%	68	6.545	0.011
	Diastolic	12	16.7%	7	46.7%	19		
	Total	72	100.0%	15	100.0%	87		

Among 72 patients with left ventricular dysfunction in patients with pulmonary edema, systolic dysfunction was seen in 60 (83.3%) patients whereas in rest of the 12 (16.7%) patients, diastolic dysfunction was present. Among 15 patients without pulmonary edema with LV dysfunction, systolic dysfunction was present in 8 (53.3%) patients and in rest 7 (46.7%) patients, diastolic dysfunction was present. Thus, systolic dysfunction was more common among patients with pulmonary edema (83.3%) as compared to patients without pulmonary edema (53.3%) and was statistically significant.

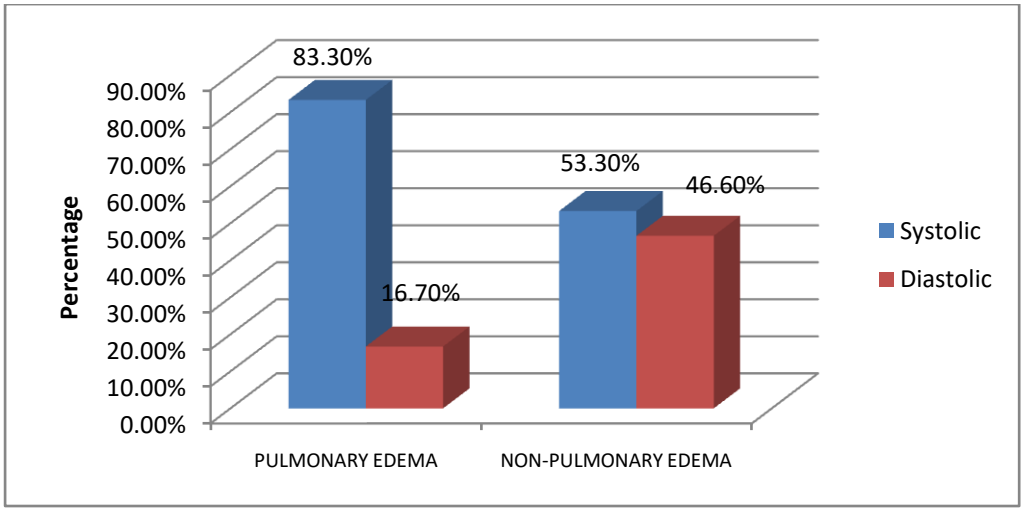

FIGURE 17: COMPARISON OF TYPE OF LEFT VENTRICULAR DYSFUNCTION BETWEEN PATIENTS OF PULMONARY EDEMA AND PATIENTS WITHOUT PULMONARY EDEMA

TABLE 29: GRADES OF LEFT VENTRICULAR SYSTOLIC DYSFUNCTION IN PATIENTS OF PULMONARY EDEMA

LV SYSTOLIC DYSFUNCTION	No. of cases	Percentage
Mild	18	30.0%
Moderate	21	35.0%
Severe	21	35.0%
Total	60	100.0%

Among 60 patients with systolic dysfunction in patients with pulmonary edema; mild, moderate and severe systolic dysfunction was seen in 30.0%, 35.0% and 35.0% patients respectively.

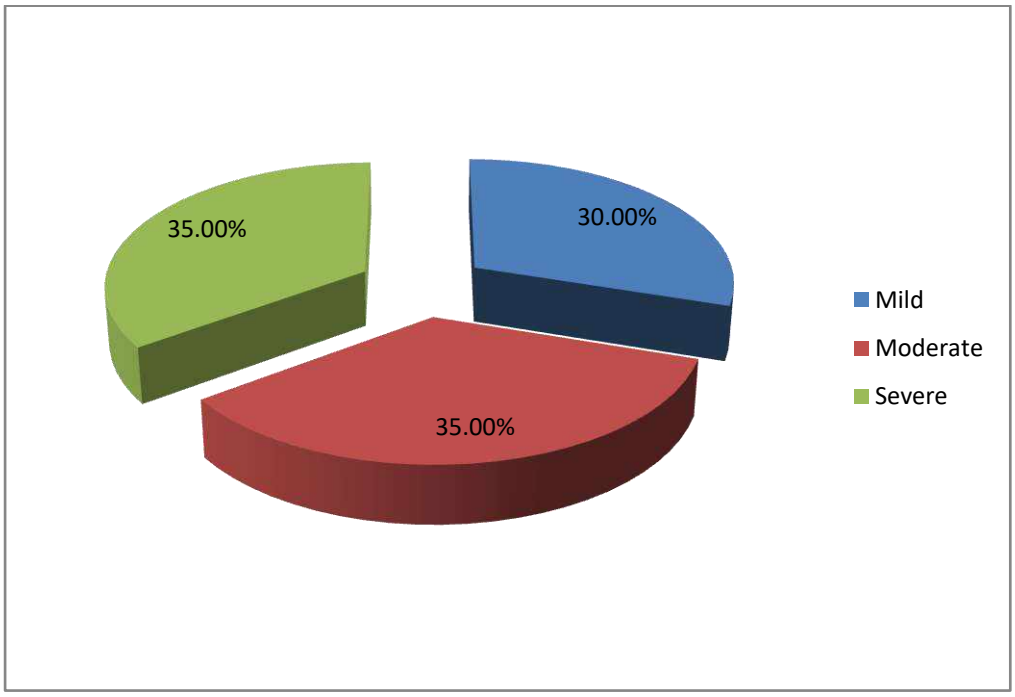

FIGURE 18: GRADES OF LEFT VENTRICULAR SYSTOLIC DYSFUNCTION IN PATIENTS OF PULMONARY EDEMA

TABLE 30: GRADES OF PLEURAL EFFUSION

GRADES OF PLEURAL EFFUSION	No. of cases	Percentage
Mild	54	46.6%
Moderate	56	48.3%
Massive	6	5.2%
Total	116	100.0%

Out of 116 patients with pleural effusion, 54 (46.6%) patients had mild pleural effusion, 56 (48.3%) patients had moderate and 6 (5.2%) patients had massive pleural effusion.

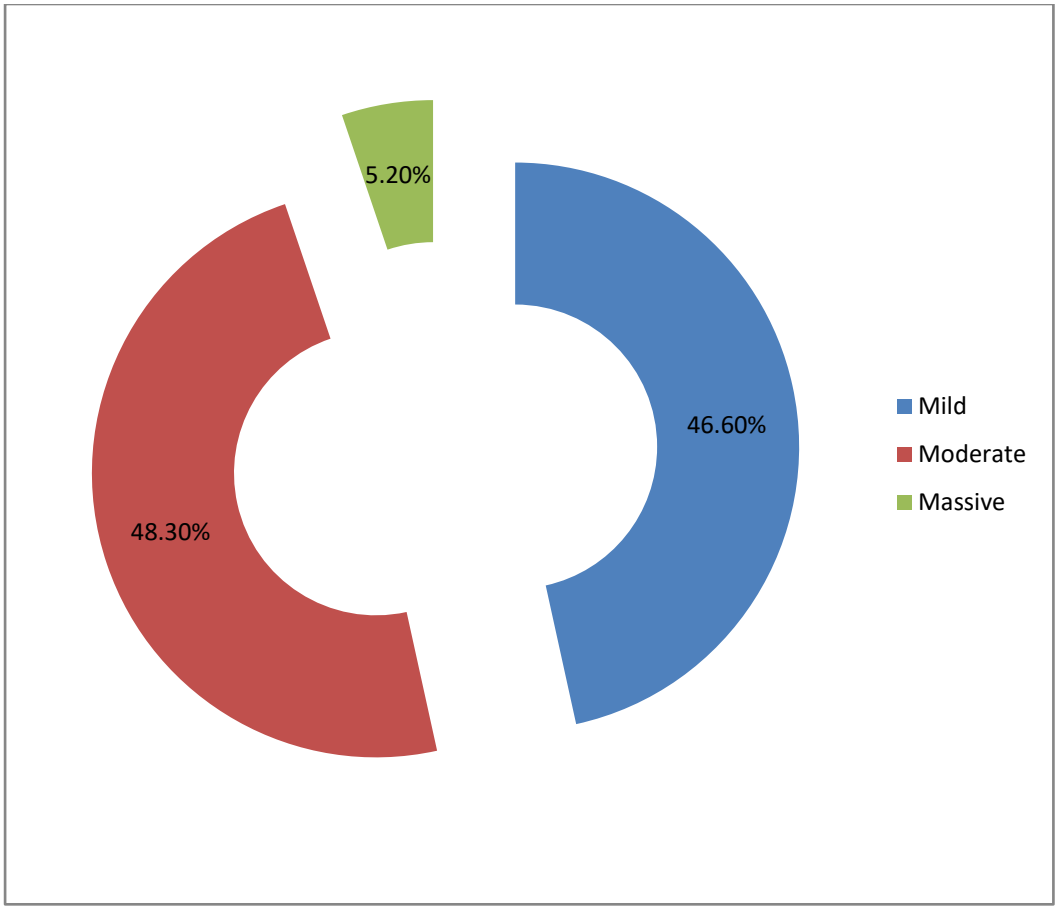

FIGURE 19: GRADES OF PLEURAL EFFUSION

TABLE 31: SITE OF PLEURAL EFFUSION

PLEURAL EFFUSION SITE		No. of cases	Percentage
Unilateral	Right side	18	15.5%
	Left side	17	14.7%
Bilateral		81	69.8%
Total		116	100%

Out of 116 patients with pleural effusion, 81 (69.8%) patients had bilateral pleural effusion and rest 35 patients had unilateral effusion. Out of the 35 patients with unilateral pleural effusion, 18 (15.5%) patients had right sided pleural effusion and 17(14.7%) patients had left sided pleural effusion.

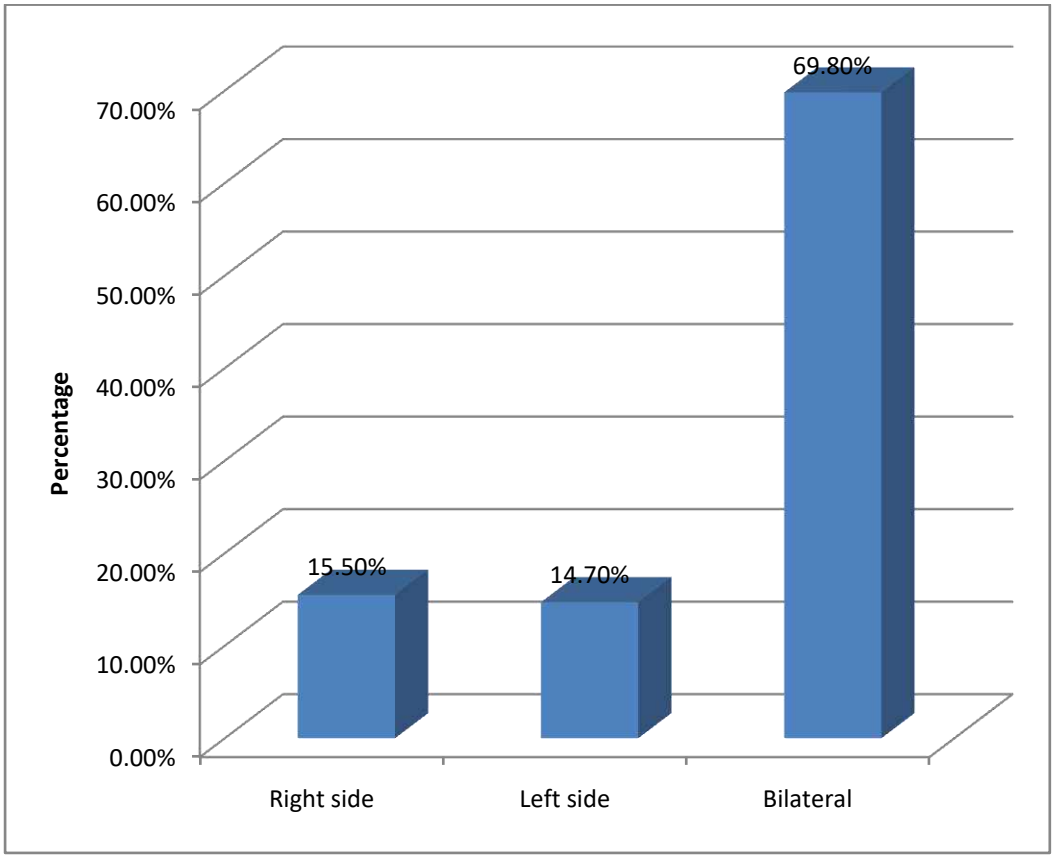

FIGURE 20: SITE OF PLEURAL EFFUSION

TABLE 32: TYPES OF PLEURAL EFFUSION

TYPE OF PLEURAL FLUID	No. of cases	Percentage
Transudative	16	50.0%
Exudative	16	50.0%
Total	32	100.0%

Out of 116 patients with pleural effusion, pleural tap was done in 32 patients and transudative and exudative pleural effusion was present in equal number of patients i.e, 16 patients each.

TABLE 33: ETIOLOGY OF PLEURAL EFFUSION

TYPE OF PLEURAL EFFUSION	ETIOLOGY	No. of cases	Percentage
Transudative	Fluid overload	80	69.0%
Exudative	Parapneumonic	26	22.4%
	Tubercular	4	3.4%
	Empyema	3	2.6%
	Uraemic	3	2.6%
	Total	116	100%

Most common type of pleural effusion was due to fluid overload which was seen in 80 (68.9%) patients and in rest 36 (31.1%) patients there was exudative pleural effusion. Most common cause of exudative pleural effusion in our study was parapneumonic in 26 (22.4%) patients, followed by tubercular in 4 (3.4%), empyema and uraemic in 3 (2.6%) patients each.

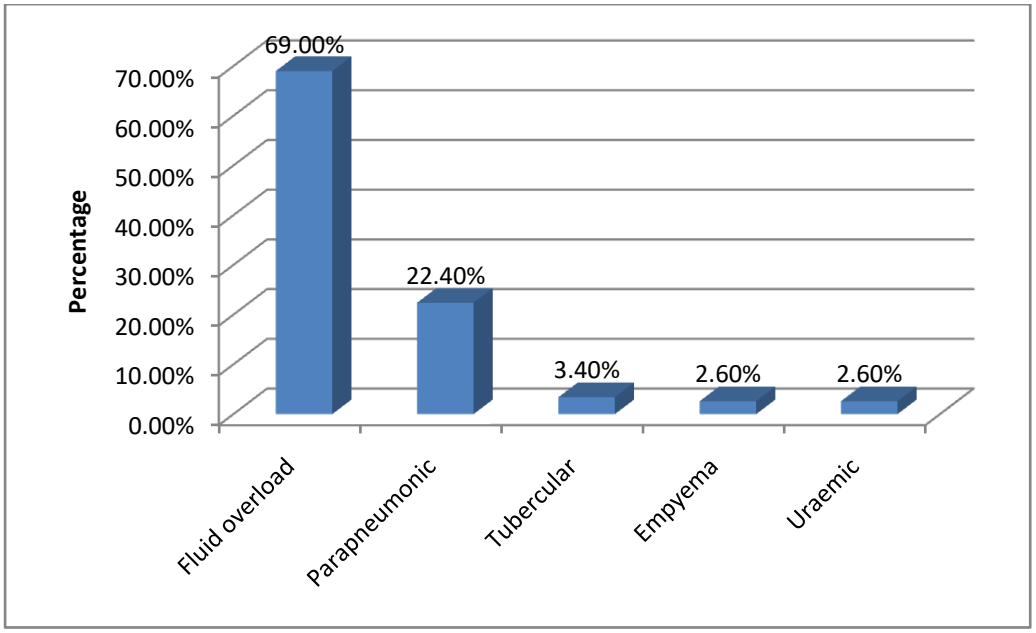

FIGURE 21: ETIOLOGY OF PLEURAL EFFUSION

TABLE 34: COMPARISON OF ETIOLOGY OF EXUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

		ON MAINTENANCE DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
PARAPNEUMONIC	Present	3	37.5%	23	82.1%	26		
	Absent	5	62.5%	5	17.9%	10		
	Total	8	100.0%	28	100.0%	36	6.181	0.024
TUBERCULAR	Present	3	37.5%	1	3.6%	4		
	Absent	5	62.5%	27	96.4%	32		
	Total	8	100.0%	28	100.0%	36	7.252	0.007
EMPYEMA	Present	0	0.0%	3	10.7%	3		
	Absent	8	100.0%	25	89.3%	33		
	Total	8	100.0%	28	100.0%	36	0.935	0.334
URAEMIC	Present	2	25.0%	1	3.6%	3		
	Absent	6	75.0%	27	96.4%	33		
	Total	8	100.0%	28	100.0%	36	3.740	0.053

Out of the total of 36 patients of exudative pleural effusion, 8 were found in patients who were undergoing maintenance dialysis and 28 were found in patients who were not on maintenance dialysis. We compared the etiologies in these 2 subgroups.

In our study, tubercular pleural effusion was more common among patients who were on maintenance dialysis 3/8 (37.5%) as compared to patients who were not on maintenance dialysis 1/28 (3.6%) which was statistically significant. Uraemic pleural effusion was more common among patients on maintenance dialysis (25.0% vs 3.6%).

Parapneumonic pleural effusion was more common among patients not on maintenance dialysis (82.1% vs 37.5%) and was statistically significant. Empyema was more common among patients not on maintenance dialysis (10.7% vs. 0%).

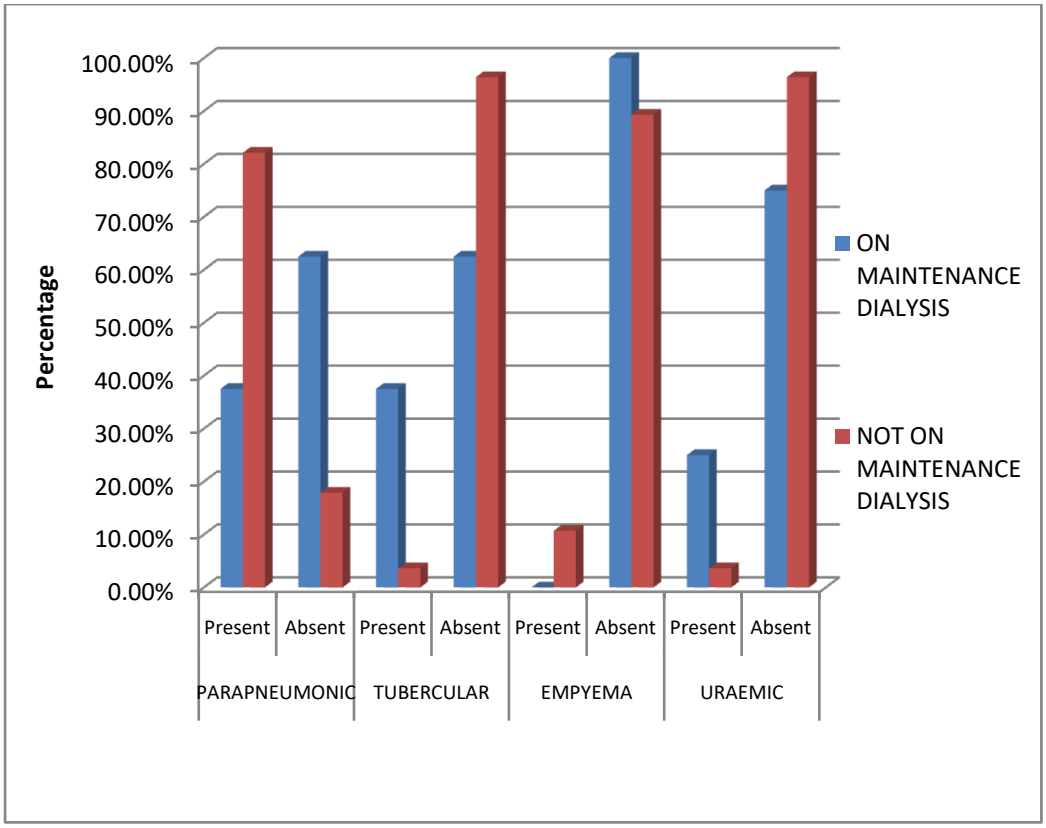

FIGURE 22: COMPARISON OF ETIOLOGY OF EXUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

TABLE 35: COMPARISON OF TRANSUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

		ON MAINTENANCE DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
FLUID OVERLOAD	Present	16	66.7%	64	69.6%	80	0.075	0.785
	Absent	8	33.3%	28	30.4%	36		
	Total	24	100.0%	92	100.0%	116		

Out of the total of 80 patients of transudative pleural effusion, 16 were found in patients who were undergoing maintenance dialysis and 64 were found in patients who were not on maintenance dialysis. In our study, there was no statistically significant difference of transudative pleural effusion between patients on and not on maintenance dialysis.

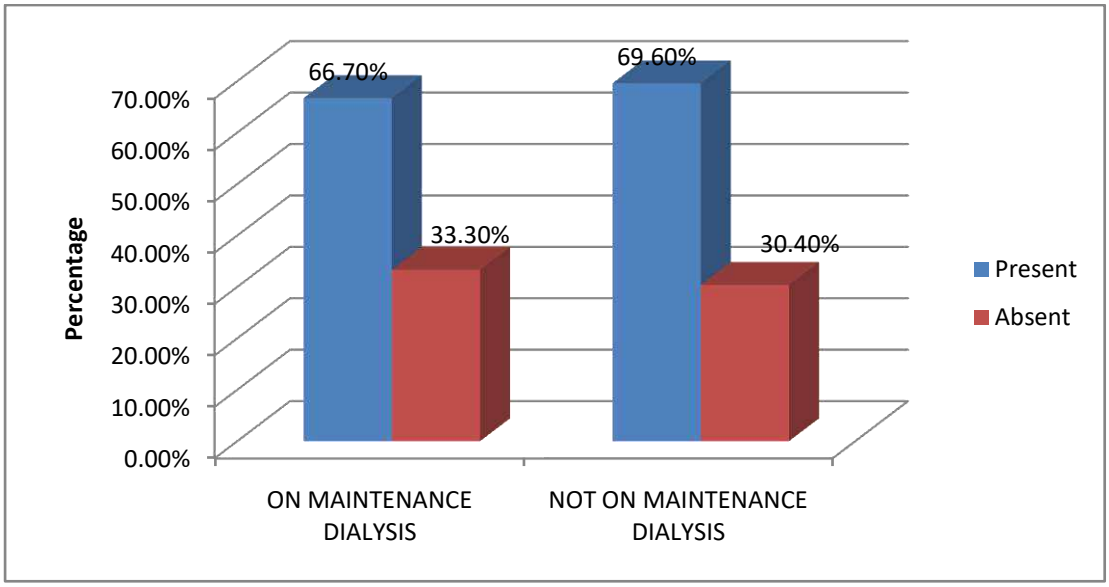

FIGURE 23: COMPARISON OF TRANSUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

TABLE 36: COMPARISON OF ETIOLOGY OF EXUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS WITH DIFFERENT STAGES OF CKD

		STAGE OF CKD								Total
		3		4		5		5 D		
PARAPNEUMONIC	Present	3	60.0%	15	93.8%	5	71.4%	3	37.5%	26
	Absent	2	40.0%	1	6.3%	2	28.6%	5	62.5%	10
	Total	5	100%	16	100%	7	100%	8	100%	36
TUBERCULAR	Present	1	20.0%	0	0.0%	0	0.0%	3	37.5%	4
	Absent	4	80.0%	16	100%	7	100%	5	62.5%	32
	Total	5	100%	16	100%	7	100%	8	100%	36
EMPYEMA	Present	1	20.0%	1	6.3%	1	14.3%	0	0.0%	3
	Absent	4	80.0%	15	94.%	6	85.7%	8	100 %	33
	Total	5	100%	16	100%	7	100%	8	100%	36
URAEMIC	Present	0	0.0%	0	0.0%	1	14.3%	2	25.0%	3
	Absent	5	100%	16	100%	6	85.7%	6	75.0%	33
	Total	5	100%	16	100%	7	100%	8	100%	36

In our study, tubercular pleural effusion was more common in patients of CKD stage 5D (37.5%) as compared to other stages. Uraemic pleural effusion was more common in patients with advanced stages of CKD i.e stage 5 (14.3%) and stage 5D (25.0%)

Parapneumonic pleural effusion was more common among patients with stage 4 (93.8%) and stage 5 (71.4%). 1 patient with empyema was seen in stage 3, 4 and 5 each.

TABLE 37: COMPARISON OF TRANSUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS WITH DIFFERENT STAGES OF CKD

		STAGE OF CKD								Total
		3		4		5		5 D		
FLUID OVERLOAD	Present	10	66.7%	29	64.4%	25	78.1%	16	66.7%	80
	Absent	5	33.3%	16	35.6%	7	21.9%	8	33.3%	36
	Total	15	100%	45	100%	32	100.%	24	100.%	116

Transudative pleural effusion was more common in patients of CKD stage 5 (78.1%) as compared to patients with other stages.

TABLE 38: COMPARISON OF ETIOLOGY OF EXUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

		COMPLIANCE TO DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
PARAPNEUMONIC	Present	2	33.3%	1	50.0%	3	0.178	0.673
	Absent	4	66.7%	1	50.0%	5		
	Total	6	100.0%	2	100.0%	8		
TUBERCULAR	Present	2	33.3%	1	50.0%	3	0.178	0.673
	Absent	4	66.7%	1	50.0%	5		
	Total	6	100.0%	2	100.0%	8		
EMPYEMA	Present	0	0%	0	0%	0		
	Absent	6	100.0%	2	100.0%	8		
	Total	6	100.0%	2	100.0%	8		
URAEMIC	Present	2	33.3%	0	0.0%	2	0.889	0.346
	Absent	4	66.7%	2	100.0%	6		
	Total	6	100.0%	2	100.0%	8		

Out of total of 8 patients of exudative pleural effusion who were on maintenance dialysis, 6 were found to be patients who were compliant to dialysis and 2 who were not compliant to dialysis. We compared etiologies of exudative pleural effusion in these subgroups. Uraemic pleural effusion was found to be more common among patients who were compliant to dialysis (33.3%) as compared to patients who were not compliant to dialysis (0%) but was not statistically significant.

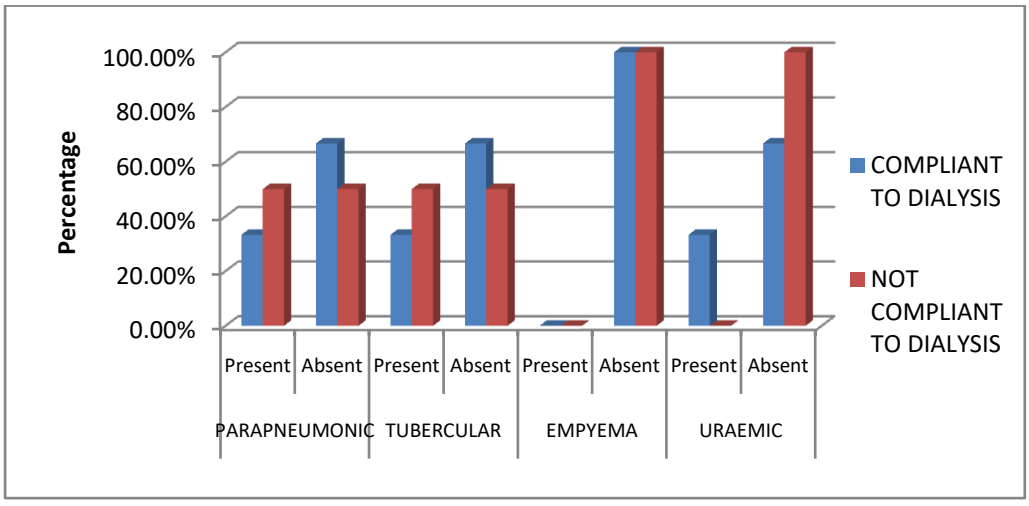

FIGURE 24: COMPARISON OF ETIOLOGY OF EXUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

TABLE 39: COMPARISON OF TRANSUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

		COMPLIANCE TO DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
FLUID OVERLOAD	Present	7	53.8%	9	81.8%	16	2.098	0.148
	Absent	6	46.2%	2	18.2%	8		
	Total	13	100.0%	11	100.0%	24		

Transudative pleural effusion was more common in patients of CKD stage 5D who were not compliant to maintenance dialysis (81.8% vs 53.8%) but was not statistically significant.

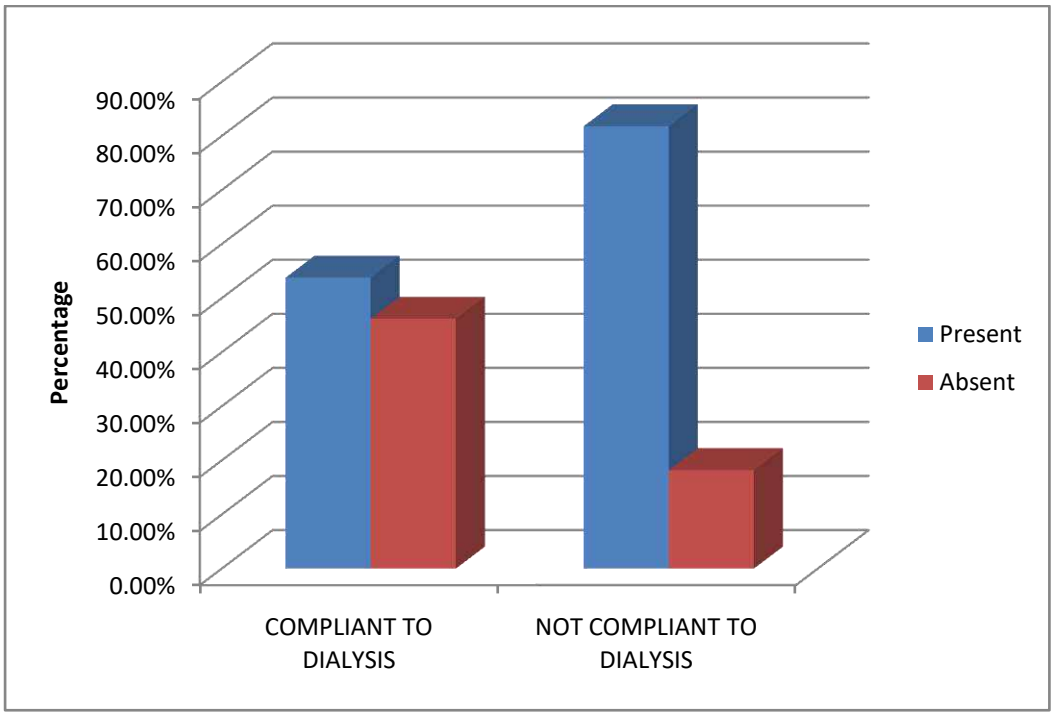

FIGURE 25: COMPARISON OF TRANSUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

TABLE 40: COMPARISON OF ETIOLOGY OF EXUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS WITH DURATION OF CKD

		DURATION OF CKD				Total	Chi-square value	p-value
		<1 year		>1 year				
PARAPNEUMONIC	Present	13	76.5%	13	68.4%	26	0.290	0.590
	Absent	4	23.5%	6	31.6%	10		
	Total	17	100.0%	19	100.0%	36		
TUBERCULAR	Present	1	5.9%	3	15.8%	4	0.892	0.345
	Absent	16	94.1%	16	84.2%	32		
	Total	17	100.0%	19	100.0%	36		
EMPYEMA	Present	2	11.8%	1	5.3%	3	0.496	0.481
	Absent	15	88.2%	18	94.7%	33		
	Total	17	100.0%	19	100.0%	36		
URAEMIC	Present	1	5.9%	2	10.5%	3	0.253	0.615
	Absent	16	94.1%	17	89.5%	33		
	Total	17	100.0	19	100.0%	36		

Out of the total of 36 patients of exudative pleural effusion, 17 patients had duration of CKD < 1 year and 19 patients had duration of CKD > 1 year. We compared the etiologies in these 2 subgroups.

Tubercular pleural effusion was more common in patients with duration of CKD >1 year (15.8%) as compared to patients with duration of CKD < 1 year (5.9%) but was not statistically significant.

TABLE 41: COMPARISON OF TRANSUDATIVE PLEURAL EFFUSION BETWEEN PATIENTS WITH DURATION OF CKD

		DURATION OF CKD				Total	Chi-square value	p-value
		< 1 year		> 1year				
FLUID OVERLOAD	Present	50	74.6%	30	61.2%	80	2.375	0.123
	Absent	17	25.4%	19	38.8%	36		
	Total	67	100.0%	49	100.0%	116		

Transudative pleural effusion was more common in patients with duration of CKD less than 1 year (74.6% vs 61.2%) but was not statistically significant.

TABLE 42: COMPARISON OF WORSENING OF PRE-EXISTING OBSTRUCTIVE AIRWAY DISEASE BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

		ON MAINTENANCE DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
Worsening of pre-existing COAD	Present	2	4.4%	11	8.0%	13	0.656	0.418
	Absent	43	95.6%	126	92.0%	169		
	Total	45	100.0%	137	100.0%	182		

There was no significant difference between prevalence of worsening of pre-existing obstructive airway disease between patients on and not on maintenance dialysis.

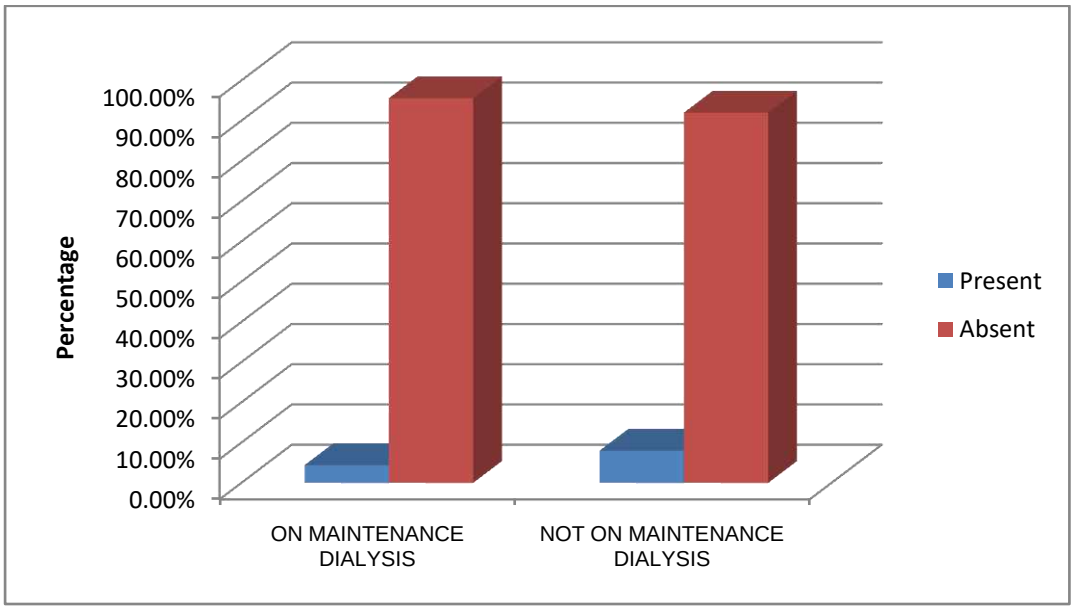

FIGURE 26: COMPARISON OF WORSENING OF PRE-EXISTING OBSTRUCTIVE AIRWAY DISEASE BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

TABLE 43: COMPARISON OF WORSENING OF PREEXISTING OBSTRUCTIVE AIRWAY DISEASE BETWEEN PATIENTS WITH DIFFERENT STAGES OF CKD

		STAGE OF CKD								Total
		3		4		5		5 D		
Worsening of pre-existing COAD	Present	5	17.9%	5	7.4%	1	2.4%	2	4.4%	13
	Absent	23	82.1%	63	92.6%	40	97.6%	43	95.6%	169
	Total	28	100%	68	100%	41	100%	45	100%	182

Worsening of pre-existing obstructive airway disease was more common in patients of stage 3 (17.9%) as compared to patients with other stages.

TABLE 44: COMPARISON OF WORSENING OF PRE-EXISTING OBSTRUCTIVE AIRWAY DISEASE BETWEEN PATIENTS WITH DURATION OF CKD

		DURATION OF CKD				Total	Chi-square value	p-value
		< 1 year		> 1year				
Worsening of pre-existing COAD	Present	5	5.4%	8	9.0%	13	0.895	0.344
	Absent	88	94.6%	81	91.0%	169		
	Total	93	100.0%	89	100.0%	182		

There was no significant difference between worsening of pre-existing obstructive airway disease in patients with different duration of CKD.

TABLE 45: COMPARISON OF WORSENING OF PRE-EXISTING OBSTRUCTIVE AIRWAY DISEASE BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

		COMPLIANCE TO DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
Worsening of pre-existing COAD	Present	2	9.5%	0	0.0%	2	2.392	0.122
	Absent	19	90.5%	24	100.0%	43		
	Total	21	100.0%	24	100.0%	45		

Out of 2 patients of worsening of pre-existing COAD in patients of CKD stage 5D, it was more common in patients with compliance to maintenance dialysis (9.5%) as compared to patients without compliance to dialysis (0.0%).

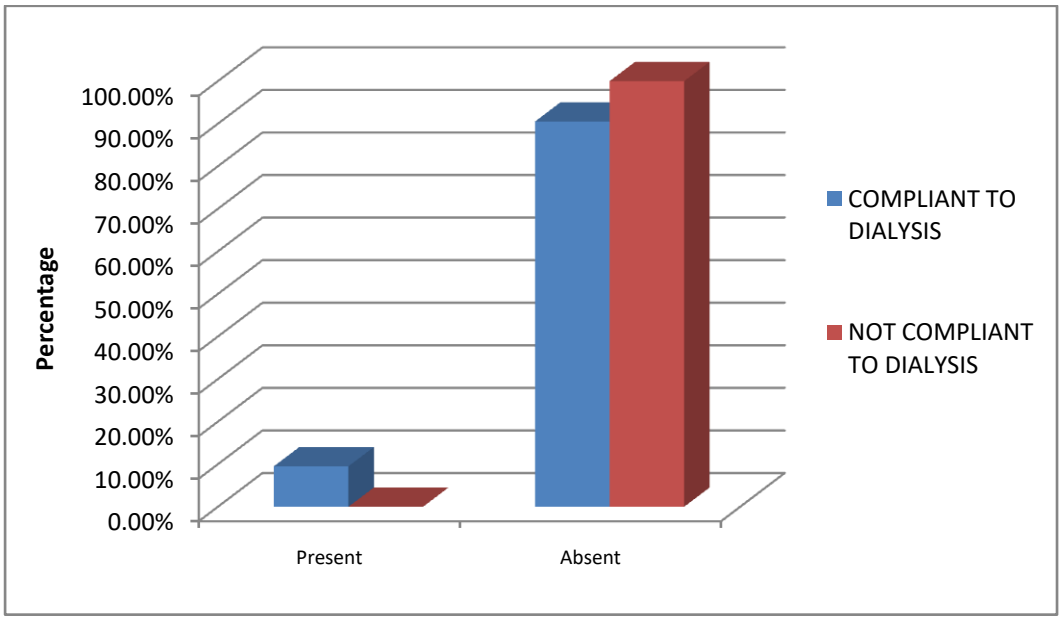

FIGURE 27: COMPARISON OF WORSENING OF PRE-EXISTING OBSTRUCTIVE AIRWAY DISEASE BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

TABLE 46: DISTRIBUTION OF PATIENTS WITH PULMONARY HYPERTENSION (n=167)

PULMONARY HYPERTENSION	No. of cases	Percentage
Present	46	22.2%
Absent	121	77.8%
Total	167	100.0%

In our study, pulmonary hypertension was present in 46 (22.2%) patients among the 167 patients in which 2D ECHO was done.

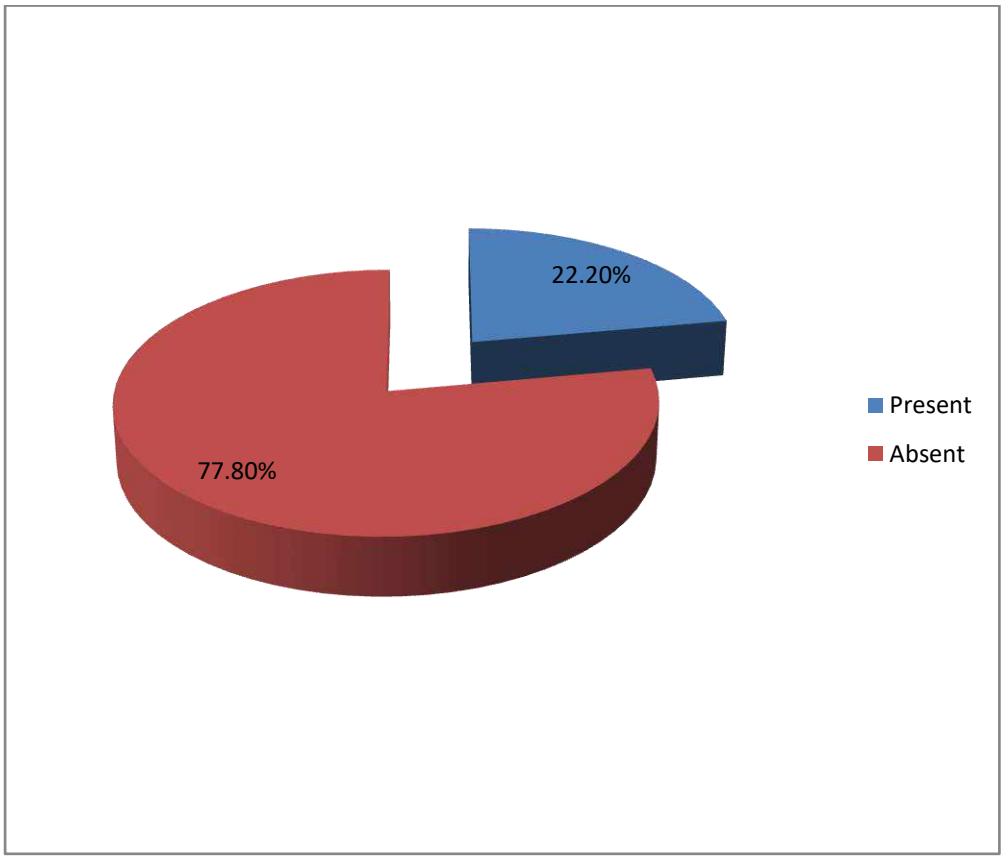

FIGURE 28: DISTRIBUTION OF PATIENTS WITH PULMONARY HYPERTENSION

TABLE 47: GRADES OF PULMONARY HYPERTENSION

GRADES OF PULMONARY HYPERTENSION	No. of cases	Percentage
Mild	7	15.2%
Moderate	35	76.0%
Severe	4	8.7%
Total	46	100.0%

Among 46 patients with pulmonary hypertension, moderate pulmonary hypertension was present in 35 (76.0%) patients whereas mild and severe pulmonary hypertension was present in 7 (15.2%) and 4 (8.7%) patients respectively.

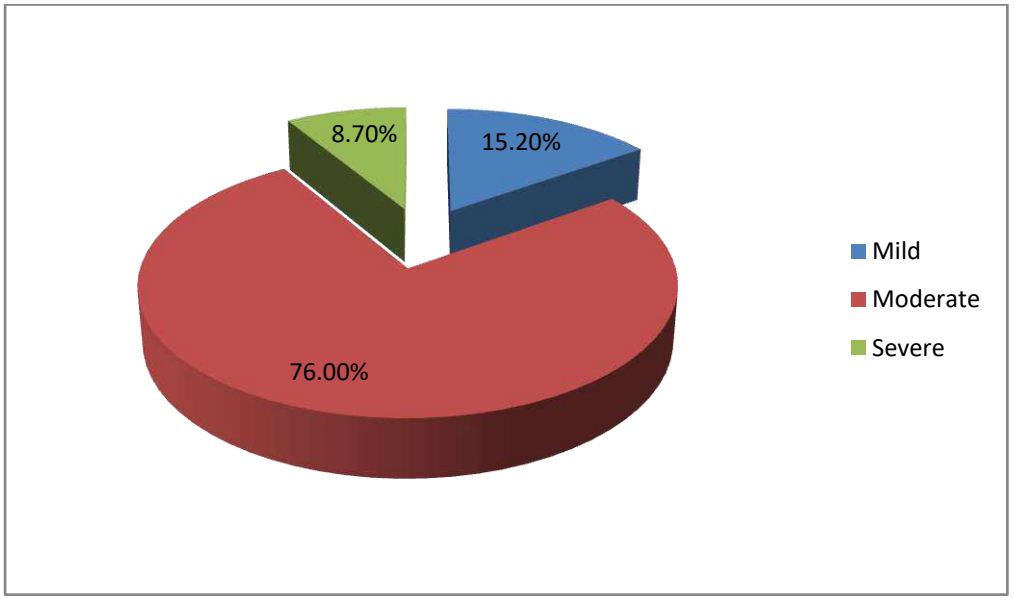

FIGURE 29: GRADES OF PULMONARY HYPERTENSION

TABLE 48: COMPARISON OF PULMONARY HYPERTENSION BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

		ON MAINTENANCE DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
PH	Present	18	41.9%	28	22.6%	46	5.947	0.015
	Absent	25	58.1%	96	77.4%	121		
	Total	43	100.0%	124	100.0%	167		

In our study, pulmonary hypertension was statistical significantly more common among patients on maintenance haemodialysis (41.9%) as compared to patients not on maintenance dialysis (22.6%).

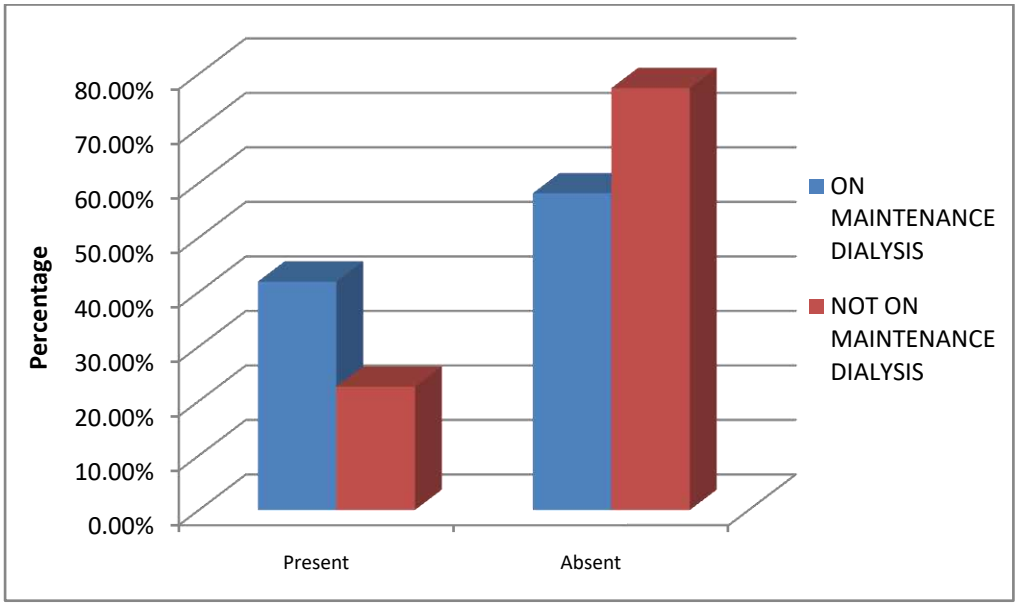

FIGURE 30: COMPARISON OF PULMONARY HYPERTENSION BETWEEN PATIENTS ON AND NOT ON MAINTENANCE DIALYSIS

TABLE 49: COMPARISON OF PULMONARY HYPERTENSION BETWEEN PATIENTS WITH DIFFERENT STAGES OF CKD

		STAGE OF CKD								Total
		3		4		5		5 D		
PH	Present	4	17.4%	10	16.4%	14	35.0%	18	41.9%	46
	Absent	19	82.6%	51	83.6%	26	65.0%	25	58.1%	121
	Total	23	100%	61	100%	40	100%	43	100%	167

Pulmonary hypertension was more common among patients with stage 5 D (41.9%) and stage 5 (35.0%) as compared to stage 4 (16.4%) and stage 3 (17.4%). Prevalence of pulmonary hypertension increased with advancing stage of chronic kidney disease.

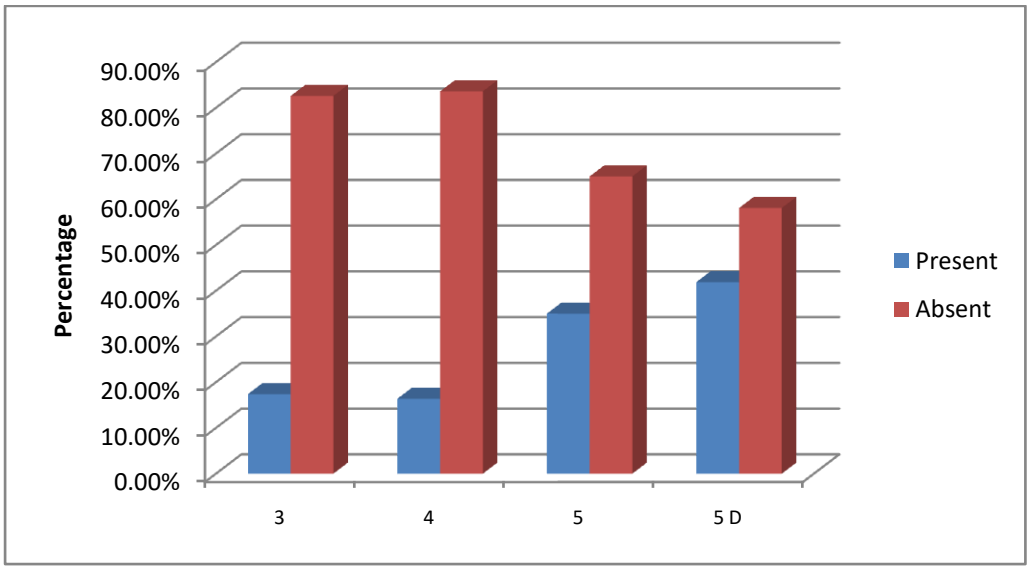

FIGURE 31: COMPARISON OF PULMONARY HYPERTENSION BETWEEN PATIENTS WITH DIFFERENT STAGES OF CKD

TABLE 50: COMPARISON OF PULMONARY HYPERTENSION BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

		COMPLIANCE TO DIALYSIS				Total	Chi-square value	p-value
		YES		NO				
PH	Present	8	42.1%	10	41.7%	18	0.001	0.977
	Absent	11	57.9%	14	58.3%	25		
	Total	19	100.0%	24	100.0%	43		

Among 43 patients of CKD stage 5D in which echocardiography was done, pulmonary hypertension was present in 18 patients. There was no significant difference of pulmonary hypertension between patients with and without compliance to dialysis (42.1% vs 41.7%).

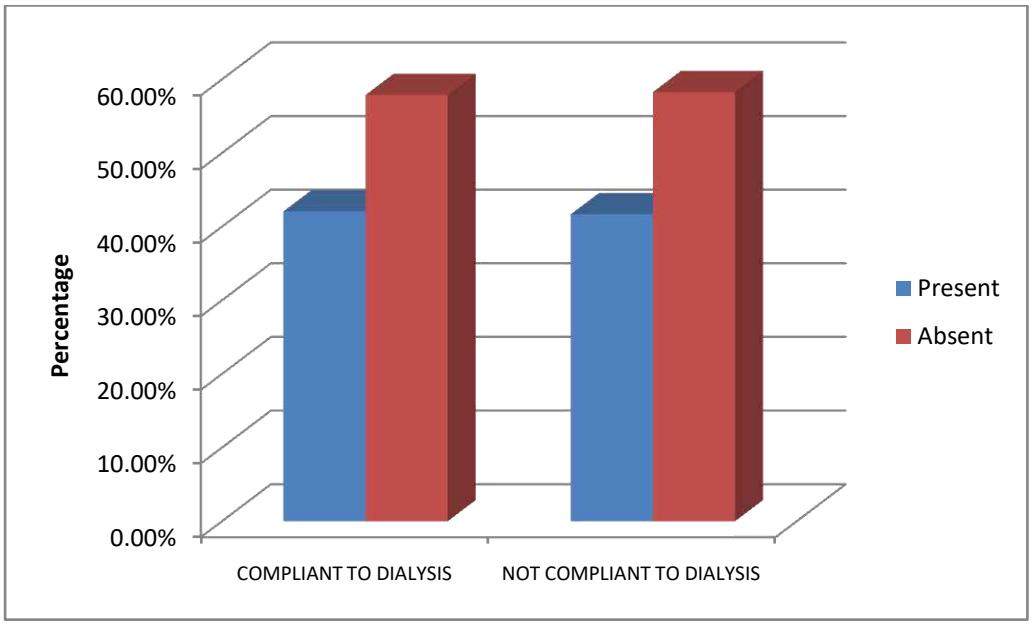

FIGURE 32: COMPARISON OF PULMONARY HYPERTENSION BETWEEN PATIENTS OF CKD STAGE 5D WITH AND WITHOUT COMPLIANCE TO DIALYSIS

TABLE 51: COMPARISON OF PULMONARY HYPERTENSION BETWEEN PATIENTS WITH DURATION OF CKD

		DURATION OF CKD				Total	Chi-square value	p-value
		<1 year		>1year				
PH	Present	20	23.3%	26	32.1%	46	1.634	0.201
	Absent	66	76.7%	55	67.9%	121		
	Total	86	100.0%	81	100.0%	167		

Pulmonary hypertension was more common in patients with duration of CKD more than 1 year (32.1%) as compared to patients with duration less than 1 year (23.3%) but not statistically significant.

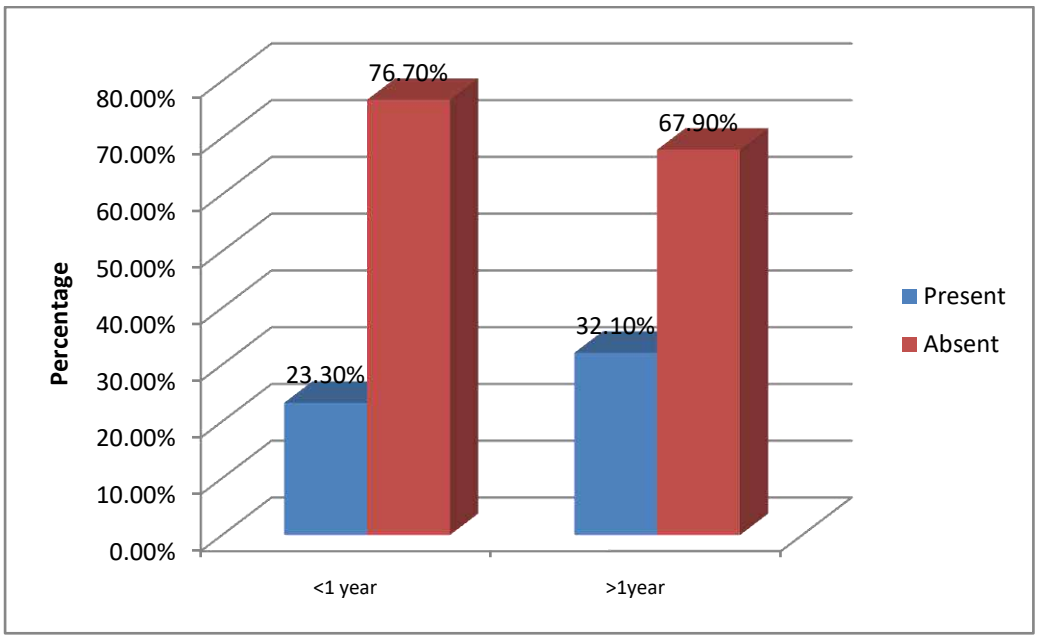

FIGURE 33: COMPARISON OF PULMONARY HYPERTENSION BETWEEN PATIENTS WITH DURATION OF CKD

TABLE 52: PROFILE OF PATIENTS WHO REQUIRED MECHANICAL VENTILATION DURING HOSPITAL STAY (n=18)

DIAGNOSIS	No. of cases	Percentage
Pneumonia with parapneumic pleural effusion	6	33.3%
Pneumonia with fluid overload	5	27.8%
Pneumonia	2	11.1%
Worsening of pre-existing COAD with pneumonia	3	16.7%
Pulmonary Koch's	1	5.6%
Fluid overload	1	5.6%
Total	18	100.0%

Out of 182 patients in our study, 18 patients were on mechanical ventilation during hospital stay. Out of these 18 patients, 16 patients had pneumonia. 6 patients had pneumonia with parapneumonic pleural effusion, 5 patients had pneumonia with fluid overload and 3 patients had worsening of pre-existing COAD with pneumonia. 1 patient had pulmonary Koch's and 1 patient was admitted due to fluid overload state.

TABLE 53: OUTCOME AT END OF HOSPITAL STAY

RESPIRATORY MANIFESTATIONS	DISCHARGED UNDER STABLE CONDITION		DAMA		EXPIRED	
	No of cases	%age	No of cases	%age	No of cases	%age
Pulmonary edema	100	79.3%	25	19.8%	1	0.8%
Pneumonia	35	58.3%	23	38.3%	2	3.3%
Pulmonary koch's	1	50.0%	1	50.0%	0	0%
Transudative pleural effusion	64	80%	15	18.7%	1	1.2%
Parapneumonic pleural effusion	13	50.0%	11	42.3%	2	7.6%
Tubercular pleural effusion	3	75.0%	1	25.0%	0	0%
Empyema	3	100.0%	0	0%	0	0%
Uraemic pleural effusion	2	66.6%	1	33.3%	0	0%
Worsening of pre-existing COAD	10	76.9%	3	23.0%	0	0%
Pulmonary hypertension	36	78.2%	10	21.7%	0	0%

Out of 182 patients taken in our study, 135 patients were discharged under stable condition, 44 patients took DAMA and rest 3 patients expired during hospital stay. Out of 3 patients who expired, 2 patients had pneumonia with parapneumonic pleural effusion and 1 patient had pulmonary edema and transudative pleural effusion.

DISCUSSION

The present study, conducted in a tertiary care hospital in North India, was a cross sectional study which involved the study of various respiratory manifestations in 182 patients of CKD who got admitted to the hospital with respiratory complaints. The observations, results and statistical data obtained were compared with previous published literatures.

DEMOGRAPHICS OF CHRONIC KIDNEY DISEASE IN OUR STUDY GROUP

In our study, out of 182 patients, 113 (62.1%) were males and 69 (37.9%) were females. Male preponderance was observed with male: female ratio of 1.6:1. Venkatesh Moger et al [26] in 2016 conducted a study on respiratory manifestations in 100 patients of CKD and found that the male: female ratio was 55:45. The mean age in our study was 60.22 ± 11.01 years. Maximum of 35.7% patients (n=65) were between 61-70 years of age group, followed by 30.8% (n=56) patients in 51-60 age group and 14.8% (n=27) patients in 41-50 years age group. Venkatesh Moger et al[26] in their study found that mean age of the study group was 45.50 ± 13.25 years.

Most common etiology of CKD in our study was diabetic nephropathy, which was seen in 83.5% (n=152) cases, followed by hypertensive nephrosclerosis in 8.8% (n=16) cases, chronic glomerulonephritis in 3.8% (n=7) cases, NSAID induced nephropathy in 1.6% (n=3) cases, IGA nephropathy and ADPKD was seen in 1.1% (n=2) cases each. In comparison to this, In study by Manjuri Sharma et al[20] on etiological causes of 5718 CKD patients admitted in hospital, most common etiology of CKD was found to be DM in 42.2% cases, followed by chronic glomerulonephritis in 21.4%, hypertension in 19.5%, obstructive uropathy in 6.9%, CIN in 3.6% and ADPKD in 1.5% of CKD patients. About 2.7% patients had CKD of unknown etiology. In a study by Rajapurkar et al[21] on etiological causes of 52,273 patients of CKD, diabetic nephropathy was also the commonest cause of CKD which was seen in 31% of cases, followed by CKD of undetermined etiology

in 16%, chronic glomerulonephritis in 14% and hypertensive nephrosclerosis in 13% of cases. In another study by Wijewickrama et al [23] on epidemiology of chronic kidney disease in Sri Lanka, the most common cause of CKD was diabetes mellitus which was seen in 44% cases, followed by hypertension in 17% cases, chronic glomerulonephritis in 12% cases, ADPKD in 6% cases, obstructive uropathy in 5.5% cases. In study by Gooneratne et al[22] on epidemiology of CKD in Sri Lanka, out of 121 patients of CKD, most common cause of CKD was diabetic nephropathy which was seen in 30.6% cases, followed by hypertension in 13.2% cases, glomerulonephritis in 9.9% cases and obstructive uropathy in 8.3% cases. Cause was unknown in rest 25.6% patients.

In our study, 8 (4.4%) patients were of stage 3a, 20 (11.0%) patients of stage 3b, 68 (37.4%) of stage 4, 41 (22.5%) of stage 5 and 45 (24.7) patients were of stage 5D. In study by Venkatesh Mogeret et al[26] out of 100 patients of CKD, number of patients in CKD stage 3, 4 and 5 were 4%, 7% and 89% respectively. In study by Gooneratne et al[22], most of patients (66.9%) were of stage 5 and 3.3% and 4.1% patients were of stage 3 and 4 respectively. In an epidemiological study by Ajay K Singh et al[15] on 5588 patients, prevalence of CKD was 17.2% and number of patients in CKD stages 1, 2, 3, 4 and 5 were 7%, 4.3%, 4.3%, 0.8% and 0.8%, respectively.

51.1% (n=93) patients in our study were diagnosed with CKD less than 1 year ago and rest 48.9% (n=89) patients were diagnosed with CKD more than 1 year back. In our study, 24.7% (n=45) of the patients were on maintenance dialysis, rest 75.3% (n=137) patients were on conservative treatment. Among patients on maintenance dialysis, 24.4% (n=11) patients were advised once a week dialysis, 64.4% (n=29) patients twice a week and rest 11.1% (n=5) patients were advised thrice a week dialysis. 46.6% (n=21) patients were compliant to advised frequency of maintenance dialysis and rest 53.3% (n=24) patients were not compliant to advised frequency of maintenance dialysis.

PRESENTING SYMPTOMS

Most common presenting symptom of patients in our study was dyspnea which was seen in 86.8% (n=158) patients, which was followed by pedal edema in 55.5% (n=101) cases, cough in 47.8% (n=87) patients, sputum production in 34.1% (n=63) and chest pain was seen in 6.6% (n=12) of the total 182 patients. None of the patients presented with haemoptysis or hiccough. Similarly, in study by Venkatesh Moger et al,[26] most common presenting symptom was dyspnea which was seen in 89% of the patients studied, followed by cough in 64%, pedal edema in 54% and chest pain in 33% of cases, whereas in a study from Nepal by Pankaj Pant et al[27] on respiratory manifestations of 102 patients, most common presenting symptom was cough which was seen in 40% of cases, followed by shortness of breath in 39.4%, chest pain in 14.1% and haemoptysis in 4.2% of the total cases studied.

CHEST X-RAY FINDINGS

Most common chest x-ray finding in our study was pulmonary edema which was seen in 69.2% (n=126) patients, followed by pleural effusion in 63.7% (n=133) patients and consolidation in 29.1% (n=53) patients. Other chest x-ray findings in our study were hyperinflated lungs in 6.6% (n=12) cases, pulmonary hypertension in 2.2% (n=4), pleural thickening in 2.7% (n=5), pulmonary calcification in 1.6% (n=3), cavitary lesions in 0.5% (n=1) and pulmonary infiltrates in 1.6% (n=3) of cases. In Venkatesh Mogeret al[26] study, 62% of patients had pulmonary edema on chest x-ray and pleural effusion was seen in 54% of patients studied and 3% of patients had consolidation.

In our study, 26.9% (n=49) patients had cardiomegaly which was similar to the study by Venkatesh Mogeret al[26], which showed 24% patients had cardiomegaly on chest x-ray. Pulmonary hypertension was seen in 32%, pleural thickening in 11%, pulmonary calcification in 13%, cavitary lesion in 2% and pulmonary infiltrates were seen in 2% of cases in his study.

PARENCHYMAL MANIFESTATIONS

Pulmonary edema is a common complication in both acute and chronic renal failure. Its pathogenesis is controversial. Hypoalbuminemia, characteristic of chronic renal failure, decreases plasma oncotic pressure and thus fosters movement of fluid out of the pulmonary capillaries. Such movement is also promoted by the increased hydrostatic pressure that occurs in congestive heart failure, which is common in this condition. One would assume that the edema fluid resulting from these processes would be low in protein, as is characteristic of “cardiac” or hydrostatic pulmonary edema. However, the finding of increased protein concentrations in the edema fluid of patients with renal failure suggests that capillary permeability is also altered. Such a suggestion is supported by the occurrence of pulmonary edema in patients who are clinically euvolemic and do not have other features of heart failure. However, some studies of the edema fluid in patients with chronic renal failure have also found low protein levels, more consistent with those found in heart failure than in inflammatory conditions such as acute respiratory distress syndrome (ARDS). Left-ventricular failure and other cardiac diseases are common in chronic renal failure; further complicating attempts to clarify the nature of pulmonary edema in patients with this condition.

In our study, pulmonary edema was the most common parenchymal manifestation seen in 126 patients (69.2%) similar to the study by Venkatesh Mogeret al[26] in which pulmonary edema was seen in 62% of the cases. In the study by Pankaj Pant et al,[27] pulmonary edema was also the most common respiratory manifestation which was seen in 28.84% (n=41) of patients.

In our study, echocardiography was done in 167 out of the 182 patients of our study group. A total of 87 patients (52.0%) out of 167 had left ventricular dysfunction in our study.

Out of the 126 patients with pulmonary edema, left ventricular dysfunction was present in 72 (57.1%) patients and out of 41 patients who did not have pulmonary edema in which echocardiography was done; left ventricular dysfunction was present in 15 (36.1%) patients.

Thus, left ventricular dysfunction was more common among patients who presented with pulmonary edema as compared to patients who presented without pulmonary edema and was statistically significant [p=0.022].

Out of 87 patients with LV dysfunction, systolic dysfunction was seen in 68 (78.2%) patients whereas in rest of the 19 (21.8%) patients, diastolic dysfunction was present. Systolic dysfunction was more common among patients with pulmonary edema (83.3%) as compared to patients without pulmonary edema (53.3%) and was statistically significant (p value= 0.011).

In study by Venkatesh Moger et al[26], Echocardiography revealed left ventricular failure in 81% patients. But he found predominantly diastolic dysfunction in 72% patients and systolic dysfunction in 23% patients. All patients with pulmonary edema had left ventricular dysfunction and 23 of them (34.3%) also had systolic dysfunction. In study by Reddy et al[45] on ECHO findings among 50 patients with CKD, systolic dysfunction was found in 27.5% of cases and diastolic dysfunction was found in 50% of cases whereas in study by Kartheek et al[43] on cardiac dysfunction in 50 patients with CKD, diastolic dysfunction was present in 54% cases, systolic dysfunction in 4% cases and 20% of the patients had both systolic and diastolic dysfunction.

In our study, pulmonary edema was statistically significant more common in patients with poor compliance to dialysis (87.5%) as compared to patients who were compliant to maintenance dialysis (52.4%) [p=0.019]. This was probably because gradual accumulation of fluid takes place due to non compliance to maintenance dialysis resulting in patients presenting with pulmonary edema. There was no difference of frequency of pulmonary edema between the different stages of CKD. Pulmonary edema was more common among CKD patients with duration less than 1 year (76.3%) as compared to patients with duration more than 1 year (61.8%) and was statistically significant [p=0.038].

Pneumonia was the second most common parenchymal manifestation seen in our study in 60 patients (32.9%) which was diagnosed on the

basis of radiological evidence (both chest x-ray and CT chest). 26 patients had associated parapneumonic pleural effusion and 3 patients had associated empyema. Sputum analysis was done in all 60 patients. Etiological organism could be isolated in 29 patients. The most common organism was Klebsiella Pneumoniae which was present in 20.0% (n=12) patients, followed by E.coli in 8.3% (n=5), Pseudomonas Aeruginosa in 6.7% (n=4), Acinetobacter Baumannii in 5.0% (n=3), Streptococcus Pneumoniae in 5.0% (n=3) and Staphylococcus Aureus and Candida in 1 case each. In study by Venkatesh Mogeret al,[26] pneumonia was present in 5% of total cases and Streptococcus Pneumoniae was most common organism isolated whereas in study by Pankaj Pant et al,[27] 10.3% patients (17) had pneumonia and out of 17 patients, 5 patients had associated pleural effusion. In study by Diego Viasuset al,[59] Streptococcus Pneumoniae was the most common organism causing pneumonia among patients with CKD.

In our study, pneumonia was more common among patients not on maintenance dialysis (37.2%) as compared to patients on maintenance dialysis (20.0%) (Statistically significant). Also, pneumonia was more common in patients with CKD stage 3 as compared to patients with other stages. Pneumonia was more common in patients who were compliant to maintenance dialysis (33.3%) as compared to patients who were not compliant to dialysis (8.3%) but was not statistically significant.

Pulmonary tuberculosis was the third parenchymal manifestation in our study. In our study, 2 (1.1%) patients were found to have sputum positive pulmonary koch's. In addition, 4 (2.1%) patients had extrapulmonary tuberculosis in the form of tubercular pleural effusion. Thus, a total of 6 patients presented with tuberculosis (pulmonary and extrapulmonary) in our study group.

In the study by Venkatesh Mogeret al,[26] 6 (6.0%) patients had pulmonary tuberculosis and 2 (2.0%) patients had tubercular pleural effusion whereas in study by Pankaj Pant et al[27], 9 (5.45%) patients

had pulmonary tuberculosis and 5 (3.0%) patients had extrapulmonary tuberculosis.

Both the patients of pulmonary TB were in the patients who were not on maintenance dialysis and were in the patients who were having CKD duration more than 1 year but there was no statistically significant difference. There was no statistically significant difference of prevalence of pulmonary tuberculosis between various stages of CKD. This was probably because of the small no. of patients with tuberculosis in our study group.

Tuberculosis (pulmonary and extrapulmonary tuberculosis) was more common among patients on maintenance dialysis (6.6%) as compared to patients not on maintenance dialysis (2.1%) but not statistically significant. Tuberculosis (pulmonary and extrapulmonary tuberculosis) was more common among patients with duration of CKD more than 1 year (5.6%) as compared to patients with duration of CKD less than 1 year (1.1%) but was not statistically significant.

A prospective study was done by Mahesh Kumar et al[69] on 160 patients with CKD who were both on and not on dialysis at Safdarjung Hospital, New Delhi. The patients were investigated to detect any form of TB. 22 patients (13.7%) out of 160 CKD patients showed evidence of tubercular infection and out of these 22 subjects, 17 had extra-pulmonary and only 5 had pulmonary TB. In their study, TB infection was more prevalent among the patients on dialysis (18 patients) than those who were on not on dialysis (4 patients) which was similar as in our study. In a similar study by A. Yousef et al,[71] out of 140 patients with CKD, 16 patients (11.4%) were diagnosed to have sputum positive pulmonary tuberculosis and 28 patients (20%) were suspected to have pulmonary tuberculosis by radiological findings and 6 patients (4.3%) were having extra-pulmonary TB.

Tuberculosis in CKD is an important problem in developing countries like India because of its endemic and environmental causes. Patients with End Stage Renal Disease (ESRD) undergoing chronic dialysis are more likely to develop tuberculosis (TB) than the general population, mainly because of the impaired cellular immunity characteristic of this

condition. Nosocomial transmission of TB has also been reported in hemodialysis (HD) centers. In a US Renal Data System (USRDS) retrospective analysis, age, unemployment, smoking, reduced body mass index, low serum albumin, ischemic heart disease, and anemia were all significant risk factors for HD patients to develop TB. End-stage renal disease (ESRD) and particularly uraemia is a known contributor to immuno-suppression. The causative factors of the immunosuppression are complex and mainly due to disruption of cell-mediated immune (CMI) response. T-cells are primarily responsible for CMI and they identify and kill intracellular pathogens such as M. tuberculosis.

PLEURAL EFFUSION

Pleural effusion was the second most common respiratory manifestation in our study. Out of 182 patients in our study, pleural effusion was present in 116 (63.7%) patients. Mild pleural effusion was seen in 46.6% (n=54) cases, moderate in 48.3% (n=56) and massive pleural effusion in 5.2% (n=6) of total cases. In study by Venkatesh Moger et al,[26] pleural effusion was seen in 54% of patients and mild, moderate and severe pleural effusion was present in 10, 35 and 9 cases respectively. Similarly, in a study by Pankaj Pant et al,[27] pleural effusion was seen in 10.9% (n=18) of cases. In study by Souvik et al[37] on pleural effusion in 430 patients of chronic kidney disease, 29 patients had pleural effusion.

In our study, bilateral pleural effusion was seen in 81 (69.8%) of cases whereas unilateral pleural effusion was present in rest 35 (30.2%) patients. Out of 35 patients with unilateral pleural effusion, right and left pleural effusion was present in 18 (15.5%) and 17 (14.7%) cases respectively. In study by Gadkari et al[38] on pleural effusion in 40 patients of CKD, bilateral pleural effusion was seen in 60% cases while right and left effusion was seen in 27.5% and 12.5% cases respectively whereas in study by Venkatesh Moger et al[26] out of 54 patients with pleural effusion, bilateral pleural effusion was seen in 12 patients and unilateral right and left sided pleural effusion was seen in 40 and 2 patients respectively.

In our study, transudative pleural effusion was present in 80 (69.0%) patients and in rest 36 (31.0%) exudative pleural effusion was present. In comparison to study by Gadkari Nitin et al,[38] transudative and exudative pleural effusion was present in 75% and 25% of cases respectively. However, in study by VenkateshMoger et al,[26] transudative and exudative pleural effusion was present in 30 and 24 patients respectively and also in a study by Souvik et al,[37] transudative pleural effusion was present in 14 cases and exudative pleural effusion was present in 15 cases. In our study, transudative pleural effusion was more since in our study, more patients were admitted with fluid overload condition.

Among the patients with exudative pleural effusion (36 patients), most common cause was parapneumonic which was seen in 26 (21.6%) cases, followed by tubercular in 4 (3.4%), empyema in 3 (2.6%) and uraemic in 3 (2.6%) of total cases. In study by Gadkari Nitin et al,[38] out of 10 cases of exudative pleural effusion, 80% were due to tubercular and rest 20% due to uraemia. No parapneumonic and empyema cases were present in their study. In study by Souvik et al,[37] out of 15 cases of exudative pleural effusion, 7 patients had tubercular, 6 patients had uraemic and 2 patients had empyema pleural effusion.

In our study, tubercular pleural effusion was statistically significant more common among patients who were on maintenance dialysis (37.5%) as compared to patients who were not on maintenance dialysis (3.6%) [p=0.007] because patients on maintenance dialysis are more immuno-compromised and are hence prone to develop tuberculosis. Also, uraemic pleural effusion was more common among patients on maintenance dialysis (25.0%) as compared to patients not on maintenance dialysis (3.6%) but was not statistically significant.

Parapneumonic pleural effusion was more common among patients not on maintenance dialysis (82.1% vs 37.5%) which was statistically significant. Empyema was more common among patients not on maintenance dialysis (10.7% vs. 0%).This is in accordance with the finding in our study that pneumonia was more common among patients

not on maintenance dialysis (37.2%) as compared to patients on maintenance dialysis (20.0%) (Statistically significant).

PULMONARY VASCULAR DISEASE

In our study, pulmonary hypertension was present in 46 (22.2%) of 167 patients in which echocardiography was done. Mild, moderate and severe PH was present in 7 (15.2%), 35 (76.0%) and 4 (8.7%) cases respectively. The study by Kalpana S Mehta et al[88] found the prevalence of pulmonary hypertension in CKD patients to be 60.5% in their 200 CKD patients. Mild, moderate and severe PH was present in 39.6%, 46.28% and 14.05% cases respectively in their study.

In our study, pulmonary hypertension was statistically significantly more common among patients on maintenance dialysis (41.9%) as compared to patients not on maintenance dialysis (22.6%) [p=0.015]. In study by Havlucu Y et al [102] on PH in 48 patients of CKD, PH was also more common among patients receiving hemodialysis (56%) than predialysis patients (39.1%). Similarly, in study by Magdy M Emara et al[91] on prevalence of PH in 99 patients of CKD, 29 (37.65%) patients on maintenance dialysis and 5 (22.7%) patients on conservative treatment had pulmonary hypertension.

There was increase prevalence of pulmonary hypertension with advancing stages of chronic kidney disease with 41.9% patients of stage 5D, 35.0 % patients of stage 5 and 16.4% and 17.4% patients of stage 4 and stage 3 respectively had PH. Also, PH was more common in patients with duration of CKD more than 1 year (32.1%) as compared to patients with duration of CKD less than 1 year (23.3%) but not statistically significant.

In our study, pulmonary embolism was not found in any of the patient.

WORSENING OF PRE-EXISTING OBSTRUCTIVE AIRWAY DISEASE

In our study, worsening of pre-existing obstructive airway disease was seen in 13 patients (7.1%)

There was no statistically significant difference of prevalence of worsening of pre-existing obstructive airway disease between different stages of chronic kidney disease, compliance to dialysis and duration

of CKD. In study by Venketesh mogar et al[26] and Pankaj pant et al,[27] there were no patients with worsening of pre-existing COAD.

PROFILE OF PATIENTS WHO REQUIRED MECHANICAL VENTILATION DURING HOSPITAL STAY

Out of 182 patients in our study, 18 patients were on mechanical ventilation during hospital stay. Out of these 18 patients, 16 patients had pneumonia. 6 patients had pneumonia with parapneumonic pleural effusion, 5 patients had pneumonia with fluid overload and 3 patients had worsening of pre-existing COAD with pneumonia.

OUTCOME OF PATIENTS AT END OF HOSPITAL STAY

Out of 182 patients taken in our study, 135 patients were discharged under stable condition, 44 patients took DAMA and rest 3 patients expired during hospital stay. Out of 3 patients who expired, 2 patients had pneumonia with parapneumonic pleural effusion and 1 patient came in fluid overload state.

LIMITATIONS

1. Small sample size of the sub-groups.
2. Single centred study.
3. There was no long term follow up of patients. Therefore long term mortality and morbidity due to respiratory complications could not be assessed.
4. Right heart catheterisation couldn’t be done for definitive diagnosis of pulmonary hypertensive disease.

SUMMARY AND CONCLUSION

- We studied the respiratory manifestations in 182 patients of CKD who got admitted to the hospital with respiratory complaints and respiratory diagnosis was made.
- Most of the patients in our study were of the age group 61-70 years with mean age of the patients being 60.22 ± 11.01 years.
- Male preponderance was seen in our study with male: female ratio of 1.6:1.
- Most common cause of the chronic kidney disease in our study was diabetes mellitus which was seen in 83.5% cases.
- Most of the patients in our study were of CKD stage 4 (37.4%). 45 (24.7%) patients in our study were of stage 5D who were dialysis dependent.
- Most common presenting complaint was dyspnea which was seen in 86.8%, followed by pedal edema in 55.5% patients.
- Pulmonary edema was most common chest x-ray finding seen in 69.2% patients followed by pleural effusion in 63.7% patients.
- Pulmonary edema was the most common respiratory manifestation in our study seen in 126 (69.2%) patients. Pulmonary edema was more common among CKD stage 5D patients who were not compliant to maintenance dialysis as compared to patients who were compliant to maintenance dialysis.
- 87 patients (52.0%) out of 167 patients in whom echocardiography was done had left ventricular dysfunction. Left ventricular dysfunction was seen in 57.1% patients with pulmonary edema and was more common than in patients not having pulmonary edema.
- Pneumonia was present in 60 (32.9%) patients and in most of the patients no organism was isolated from sputum culture. Most common organism isolated was Klebsiella Pneumoniae seen in 12 patients. Growth of Streptococcus Pneumoniae was obtained in 3 cases. Pneumonia was more common in patients of stage 3

(46.4%) and stage 4 (39.7%) as compared to patients with other stages.

- Pulmonary tuberculosis was present in 2 patients (sputum AFB positive) in our study. In addition, 4 patients had extrapulmonary tuberculosis in the form of tubercular pleural effusion.
- Pleural effusion was the second most common respiratory manifestation in our study seen in 116 patients. Most common cause of pleural effusion was because of fluid overload seen in 80 (69.0%) patients.
- Most common cause of exudative pleural effusion was parapneumonic seen in 26 patients, followed by tubercular in 4, empyema in 3 and uraemic in 3 patients. Tubercular and uraemic pleural effusion was more common in patients of stage 5D on maintenance dialysis as compared to patients of other stages. Parapneumonic pleural effusion was more common in patients not on maintenance dialysis.
- Worsening of pre-existing obstructive airway disease was present in 13 patients.
- Among 167 patients in which echocardiography were done, pulmonary hypertension was present in 46 (22.2%) patients. Most of the patients had moderate pulmonary hypertension. Prevalence of pulmonary hypertension increased with advancing stage of chronic kidney disease with pulmonary hypertension being more common among patients on maintenance dialysis (41.9%) as compared to patients not on maintenance dialysis (22.6%). In our study, no patient had pulmonary embolism.
- 18 patients were on mechanical ventilation in our study, out of which 16 patients had pneumonia. 6 patients had pneumonia with parapneumonic pleural effusion, 5 patients had pneumonia with fluid overload and 3 patients had worsening of pre-existing COAD with pneumonia.

- Out of 182 patients in our study, 135 patients were discharged under stable condition, 44 patients took DAMA and 3 patients expired during hospital stay.

CONCLUSION

Patients of CKD in our study presented with varied respiratory manifestations. Respiratory manifestations are one of the important causes of mortality and morbidity in patients of CKD apart from the usual reasons related to CKD. Thus, this study helped us in understanding the complete spectrum of the respiratory manifestations in CKD. Early detection and proper management of these presentations can significantly improve the outcome in these patients.

BIBLIOGRAPHY

1. Sharma A, Sharma A, Gahlot S, Prasher PK. A study of pulmonary function in end-stage renal disease patients on haemodialysis: a cross-sectional study. Sao Paulo Med J. 2017;135:568-72.
2. Visconti L, Santoro D, Cernaro V, Buemi M, Lacquaniti A. Kidney-lung connections in acute and chronic diseases: current perspectives. J Nephrol. 2016;29:341-348.
3. Basu RK, Wheeler D. Effects of ischemic acute kidney injury on lung water balance: nephrogenic pulmonary edema?. Pulmonary medicine; 2011.
4. Farha N, Munguti C. A Dramatic Presentation of Pulmonary Edema Due to Renal Failure. Kans J Med. 2020;13:56-57.
5. Hassan IS, Ghalib MB. Lung disease in relation to kidney diseases. Saudi J Kidney Dis Transpl. 2005;16:282-287.
6. Vora A, Oswal V. Tuberculosis in Chronic Kidney Disease. J Assoc Physicians India. 2020;68:11-14.
7. Chou CY, Wang SM, Liang CC,. Risk of pneumonia among patients with chronic kidney disease in outpatient and inpatient settings: a nationwide population-based study. Medicine (Baltimore). 2014;93:e174.
8. McDonald HI, Thomas SL, Nitsch D. Chronic kidney disease as a risk factor for acute community-acquired infections in high-income countries: a systematic review. BMJ Open. 2014;4:e004100.
9. Bolignano D, Rastelli S, Agarwal R. Pulmonary hypertension in CKD Am J Kidney Dis. 2013;61:612-22.
10. Thenappan T. Pulmonary hypertension in chronic kidney disease: a hemodynamic characterization. Pulm Circ. 2017;7:567-8.
11. Levey AS, Andreoli SP, DuBose T, Provenzano R, Collins AJ. CKD: common, harmful, and treatable--World Kidney Day 2007. Am J Kidney Dis. 2007;49:175-9.
12. Modi GK, Jha V. The incidence of end-stage renal disease in India: a population-based study. Kidney Int. 2006;70:2131-3.

13. Singh NP, Ingle, G.K., Saini VK, Jami A., Beniwal P., Lal M., & Meena GS. Prevalence of low glomerular filtration rate, proteinuria and associated risk factors in North India using Cockcroft-Gault and Modification of Diet in Renal Disease equation: an observational, cross-sectional study. BMC nephrology, 10.2009:1:1-13.
14. Agarwal SK, Dash SC, Irshad M, Raju S, Singh R, Pandey RM, et al. Prevalence of chronic renal failure in adults in Delhi, India. Nephrol Dial Transplant. 2005;20:1638-1642.
15. Singh AK, Farag YM, Mittal BV,l. Epidemiology and risk factors of chronic kidney disease in India - results from the SEEK (Screening and Early Evaluation of Kidney Disease) study. BMC Nephrol. 2013;14:114.
16. Varma PP. Prevalence of chronic kidney disease in India - Where are we heading?. Indian J Nephrol. 2015;25:133-135.
17. Levey AS, Stevens LA, Schmid CH,. A new equation to estimate glomerular filtration rate Ann Intern Med. 2009;150:604-612.
18. Levey AS, de Jong PE, Coresh J,. The definition, classification, and prognosis of chronic kidney disease: a KDIGO Controversies Conference report Kidney Int. 2011;80:17-28.
19. Levin A, Stevens PE. Summary of KDIGO 2012 CKD Guideline: behind the scenes, need for guidance, and a framework for moving forward. Kidney Int. 2014;85:49-61.
20. Sharma M, Doley P, Das HJ. Etiological profile of chronic kidney disease: A single-center retrospective hospital-based study. Saudi J Kidney Dis Transpl. 2018;29:409-13
21. Rajapurkar MM, John GT, Kirpalani AL,. What do we know about chronic kidney disease in India: first report of the Indian CKD registry. BMC Nephrol. 2012;13:10.
22. Gooneratne IK, Ranaweera AK, Liyanarachchi NP, Gunawardane N, Lanerolle RD. Epidemiology of chronic kidney disease in a Sri Lankan population. Int J Diabetes Dev Ctries. 2008;28:60-64.

23. Wijewickrama, E & Weerasinghe, D & Sumathipala, Pubudu & Horadagoda, Charith & Lanarolle, et al M.H.R. Epidemiology of chronic kidney disease in a Sri Lankan population: Experience of a tertiary care center. Saudi journal of kidney diseases and transplantation: an official publication of the Saudi Center for Organ Transplantation, Saudi Arabia.2011:22. 1289-93.
24. Pierson DJ. Respiratory considerations in the patient with renal failure. Respir Care. 2006;51:413-22.
25. Pulmonary-Renal Syndrome Joyce Lee, MD, MAS, University of Colorado Denver.
26. Moger V, Arun BS, Suresh H, Sagar Reddy SL. A study of respiratory manifestations in chronic kidney disease. International Journal of Biomedical Research. 2017;8:70-4.
27. Pant P, Baniya S, Jha A. Prevalence of Respiratory Manifestations in Chronic Kidney Diseases; A Descriptive Cross-sectional Study in A Tertiary Care Hospital of Nepal. JNMA J Nepal Med Assoc. 2019;57:80-83.
28. Sibbald WJ, Anderson RR, Holliday RL. Pathogenesis of pulmonary edema associated with the adult respiratory distress syndrome. Can Med Assoc J. 1979;120:445-50.
29. Murray JF. Pulmonary edema: pathophysiology and diagnosis. Int J Tuberc Lung Dis. 2011;15:155-i.
30. Iqbal, Muhammad Areeb, and Mohit Gupta. "Cardiogenic Pulmonary Edema." (2019).
31. Clark SB, Soos MP. Noncardiogenic Pulmonary Edema. Treasure Island (FL): Stat Pearls Publishing; 2020
32. Jimnaz PA., and Ajmal Abdul Kharim. "Acute pulmonary oedema in chronic dialysis patients, causes, clinical course and outcome admitted into emergency department." International Journal of Advances in Medicine 2017;4.6:1541.
33. Marie-Patrice Halle, Alexandre Hertig, Andre Pascal Kengne, Gloria Ashuntantang, Eric Rondeau, Christophe Ridel, Acute pulmonary oedema in chronic dialysis patients admitted into an

intensive care unit, Nephrology Dialysis Transplantation, 27.2 2012: 603-7.

34. qbal MA, Gupta M. Cardiogenic Pulmonary Edema. Treasure Island (FL): StatPearls Publishing; 2020
35. Malek R, Soufi S. Pulmonary Edema. In: StatPearls. Treasure Island (FL): StatPearls Publishing;2020.
36. Banerjee D, Ma JZ, Collins AJ, Herzog CA. Long-term survival of incident haemodialysis patients who are hospitalized for congestive heart failure, pulmonary edema, or fluid overload. Clin J Am Soc Nephrol. 2007;2:1186-90.
37. Ray S, Mukherjee S, Ganguly J, Abhishek K, Mitras S, Kundu S. A cross-sectional prospective study of pleural effusion among cases of chronic kidney disease. Indian J Chest Dis Allied Sci. 2013;55:209-213.
38. Nitin G. Study of Pleural Effusion in Chronic Kidney Disease. journal of medical science and clinical research, 2019:7.
39. Bakirci T, Sasak G, Ozturk S, Akcay S, Sezer S, Haberal M. Pleural effusion in long-term haemodialysis patients. Transplant Proc. 2007;39:889-91.
40. Virupakshappa V., et al. "Profile of pleural effusion in chronic kidney disease patients undergoing hemodialysis." IP Indian Journal of Immunology and Respiratory Medicine 2.4 (2018): 103-107.
41. McGraw MD., Robison K., Kupfer O., Brinton JT., & Stillwell P C. The use of light's criteria in hospitalized children with a pleural effusion of unknown etiology. Pediatric pulmonology, 53(8), 2018:1101-06.
42. Chakko S. Pleural effusion in congestive heart failure. *Chest*, *98*(3), 1990:521-22.
43. Kartheek AV., & Reddy, VS. Assessment of cardiac dysfunction in patients with end stage renal disease in a tertiary care hospital. J Evid Based Med Healthc, *6*(24),2019: 1668-72.
44. Laddha M., Sachdeva V, Diggikar PM., Satpathy PK., & Kakrani AL. Echocardiographic assessment of cardiac dysfunction in

patients of end stage renal disease on haemodialysis. J Assoc Physicians India, *62*(1), 28-32.2014;62:28-32.

45. Reddy, B. S. Assessment of ECG and echo findings among with chronic kidney disease patients. *Scholars* J Appl Med Sci, *5*,2017: 3475-80.
46. Kaur Arashbir, and Bhupinder Singh. "ECG and ECHO Changes in CKD." Annals of International Medical and Dental Research 3.5: 10.
47. Toubes ME., Lama A., Ferreiro L., Golpe A., Álvarez-Dobaño JM., González-Barcala FJ.,& Valdés L. Urinothorax: a systematic review. Journal of thoracic disease*,* 2017;9:1209-18.
48. Mohanty A., Rao CM., Rath B., Sarkar B., Majhi M., Panda P, & Sahu PK. Urinothorax: An uncommon case of pleural effusion. *The* Journal of Association of Chest Physicians, *4*(1), 2016:27.
49. Light, RW, Girard, WM., Jenkinson, SG., & George, RB. . Parapneumonic effusions. *The American journal of medicine*, 1980;69:507-12.
50. Shebl E., & Paul M. Parapneumonic pleural effusions and empyema thoracis. (2018).
51. Berger HW, & Mejia E. Tuberculous pleurisy. *Chest*, *63*(1), 1973:88-92.
52. Karkhanis VS, & Joshi JM. Pleural effusion: diagnosis, treatment, and management. Open access emergency medicine*:* OAEM, *4*, 2012:31.
53. Seo HM., Kim M, & Kim, H. Refractory exudative pleural effusion in patients with chronic kidney disease not receiving dialysis: A case report. *Clinical case reports*, .2019;7:675-79.
54. Maher, John F. "Uremic pleuritis." American Journal of Kidney Diseases 10.1 (1987): 19-22.7
55. Rashid-Farokhi F, Pourdowlat G, Nikoonia MR, Behzadnia N, Kahkouee S, Nassiri A. et al. Uremic pleuritis in chronic hemodialysis patients. Hemodialysis International, *17*(1), 2013:94-100.

56. Collins AJ, Foley RN., Gilbertson DT., & Chen SC. The state of chronic kidney disease, ESRD, and morbidity and mortality in the first year of dialysis. Clinical Journal of the American Society of Nephrology, 4(Supplement 1), 2009:S5-11.
57. James MT., Quan H., Tonelli M., Manns BJ., Faris P., Laupland KB et al & Alberta Kidney Disease Network. CKD and risk of hospitalization and death with pneumonia. American Journal of Kidney Diseases, 2009;54:24-32.
58. Lai SW, Lin CL, & Liao KF. Risk of contracting pneumonia among patients with predialysis chronic kidney disease: a population-based cohort study in Taiwan. Biomedicine,2017:7(3).
59. Viasus D., Garcia-Vidal C., Cruzado, J.M., Adamuz J., Verdaguer R, Manresa F., & Carratala, J. Epidemiology, clinical features and outcomes of pneumonia in patients with chronic kidney disease. Nephrology Dialysis Transplantation, 26(9), 2011:2899-06.
60. Judd E., Ahmed M. I., Harms JC., Terry N. L., Sonavane, S. K., & Allon, M. et al. Pneumonia in hemodialysis patients: a challenging diagnosis in the emergency room. Journal of nephrology,2013: 26(6), 1128.
61. Chen CY., Hsu SC., Hsieh HL, Suk CW, Hsu YP, Sue YM, et al. Microbial etiology of pneumonia in patients with decreased renal function. Plos one, 2019;14:e0216367.
62. Htun TP., Sun Y., Chua HL., & Pang J. Clinical features for diagnosis of pneumonia among adults in primary care setting: A systematic and meta-review. Scientific reports, 2019;9:7600.
63. Sattar, SBA, & Sharma, S. (2018). Bacterial pneumonia.
64. Guo H., Liu J., Collins AJ, & Foley, RN. Pneumonia in incident dialysis patients—the United States renal data system. 2008: 23.2, 680-68
65. Hussein MM., Mooij JM., & Roujouleh H. Tuberculosis and chronic renal disease. In Seminars in dialysis Malden, US: Blackwell Science Inc. 2003;16:38-44.

66. Abdelrahman M., Sinha AK., & Karkar A. Tuberculosis in end-stage renal disease patients on hemodialysis. Hemodialysis International, 10(4), 2006:360-64..
67. Venkata RK. "Tuberculosis in chronic kidney disease." Clinical nephrology 67.4 2007: 217-20.
68. Min J., Kwon SK., Jeong, HW. Han, JH., Kim, YJ., Kang, M., et al. End-stage renal disease and risk of active tuberculosis: a Nationwide population-based cohort study. Journal of Korean medical science, 2018;33:e341.
69. Lal MK, Singh S. Tuberculosis in Chronic Kidney Disease. J Assoc Physicians India. 2020;68:16-18.
70. Cheng KC, Liao KF, Lin CL, Liu CS, Lai SW. Chronic kidney disease correlates with increased risk of pulmonary tuberculosis before initiating renal replacement therapy: A cohort study in Taiwan. Medicine (Baltimore). 2018;97:e12550.
71. Yousef AI, Ismael MF, Elshora AE, Abdou HE. Pulmonary tuberculosis in patients with chronic renal failure at Zagazig University Hospitals. Egyptian Journal of Chest Diseases and Tuberculosis. 2014;63:187-92.
72. Romanowski K, Clark EG, Levin A, Cook VJ, Johnston JC. Tuberculosis and chronic kidney disease: an emerging global syndemic. Kidney Int. 2016;90:34-40.
73. Vikrant, S. Clinical profile of tuberculosis in patients with chronic kidney disease: A report from an endemic Country. Saudi Journal of Kidney Diseases and Transplantation, 2019:30:470-77.
74. Pradhan, Ravi R., and Mahesh Raj Sigdel. "Prevalence, Clinical Presentation, and Outcome of Tuberculosis in Patients with Chronic Kidney Disease at a Tertiary Care Hospital in Nepal." International journal of nephrology (2020).
75. Segall L, & Covic A. Diagnosis of tuberculosis in dialysis patients: current strategy. Clinical Journal of the American Society of Nephrology, 5(6), 2010:1114-22.
76. Milburn H, Ashman N., Davies P, Doffman S, Drobniewski F., Khoo S.et al. British Thoracic Society Stan-1 dards of Care Committee

and Joint Tuberculosis Committee Guidelines for the prevention and management of Mycobacterium tuberculosis infection and disease in adult patients with chronic kidney disease. Thorax, 2010:65, 557-70.

77. Dumra, H. Tuberculosis in special situations: Co-morbid conditions, physiological states and contraception. Astrocyte,2017:4(2), 100.
78. Hoeper, Marius M. "Definitions and diagnosis of pulmonary hypertension." Journal of the American College of Cardiology 62.25S 2013: D42-50.
79. Ryan John J., "The WHO classification of pulmonary hypertension: A case-based imaging compendium." Pulmonary circulation. 2012;2:107-121
80. O'Leary, Jared M. "Pulmonary hypertension in patients with chronic kidney disease: invasive hemodynamic etiology and outcomes." Pulmonary circulation 7.3 2017: 674-83.
81. Navaneethan, Sankar D. "Presence and outcomes of kidney disease in patients with pulmonary hypertension." Clinical Journal of the American Society of Nephrology 9.5 (2014): 855-63.
82. Tiengo, A., Fadini, GP, & Avogar A.The metabolic syndrome, diabetes and lung dysfunction. Diabetes & metabolism, 34(5),2008: 447-54.
83. Abedini, Mokhtar, et al. "Pulmonary hypertension among patients on dialysis and kidney transplant recipients." Renal failure 35.4 2013: 560-65.
84. Giaid, Adel. "Nitric oxide and endothelin-1 in pulmonary hypertension." Chest 114.3 (1998): 208S-212S.
85. Zoccali C, Mallamaci F, & Tripepi G. Nocturnal hypoxemia predicts incident cardiovascular complications in dialysis patients. Journal of the American Society of Nephrology, 13(3),2002:729-33.
86. Pabst S., Hammerstingl C, Hundt F., Gerhardt T., Grohe C, Nickenig G., & Skowasch, D. Pulmonary hypertension in patients with chronic kidney disease on dialysis and without dialysis: results of the PEPPER-study. PloS one, *7*(4),2012: e35310.

87. Barst, Robyn J. "Updated evidence-based treatment algorithm in pulmonary arterial hypertension." Journal of the American College of Cardiology 54.1S 2009: S78-84.
88. Mehta KS., Shirkande AK., Bhurke, SP, Pajai AE, Swami RS.,et al. "Pulmonary hypertension in various stages of chronic kidney disease in Indian patients." Indian journal of nephrology 29.2: 95.
89. Moniruzzaman M., Islam MN., Alam MB., Alam AM., Khan MM. H., Ali Z et al. "Pulmonary Hypertension in Hemodialysis Patients." Cardiovascular Journal 4.2 2012: 148-52.
90. Bozbas, S. S. "Pulmonary hypertension in patients with end-stage renal disease undergoing renal transplantation." Transplantation proceedings., 41:2753-56.
91. Emara Magdy M, Habeb MA., Alnahal A., Elshazly TA, Alatawi FO, & Masoud, AS. "Prevalence of pulmonary hypertension in patients with chronic kidney disease on and without dialysis." Egyptian Journal of Chest Diseases and Tuberculosis 62.4 2013: 761-68.
92. Fabbian F., Cantelli S., Molino C., Pala M, Longhini C., & Portaluppi, F. Pulmonary hypertension in dialysis patients: a cross-sectional Italian study. International journal of nephrology, 2011.
93. Kraus Michael A, and R D. Hamburger. "Sleep apnea in renal failure." Advances in Peritoneal Dialysis 13 1997: 88-92.
94. Aziz F, & Chaudhary K. The triad of sleep apnea, hypertension, and chronic kidney disease: a spectrum of common pathology. Cardiorenal medicine, 7(1), 2017:74-82.
95. Young T., Skatrud J., & Peppard, PE. Risk factors for obstructive sleep apnea in adults. Jama, 291(16), 2013-2016.
96. Abuyassin B., Sharma K., Ayas NT., & Laher, I. Obstructive sleep apnea and kidney disease: a potential bidirectional relationship? Journal of Clinical Sleep Medicine, 11(8), 2015:915-24.
97. Sakaguchi Y., Shoji T., Kawabata H., Niihata K., Suzuki A., Kaneko T.,et a. High prevalence of obstructive sleep apnea and its association with renal function among nondialysis chronic kidney

disease patients in Japan: a cross-sectional study. Clinical Journal of the American Society of Nephrology, 6(5), 2011:995-1000.

98. Huang HC, Walters G., Talaulikar G., Figurski D, Carroll A, Hurwitz M., et al. Sleep apnea prevalence in chronic kidney disease-association with total body water and symptoms. BMC nephrology, 18(1), 1-9.
99. Nicholl DD, Ahmed SB, Loewen AH, Hemmelgarn BR., Sola DY., Beecroft JM, & Hanly PJ. Declining kidney function increases the prevalence of sleep apnea and nocturnal hypoxia. Chest, 141(6),2012: 1422-30.
100. Adeseun, Gbemisola A, and Sylvia E Rosas. "The impact of obstructive sleep apnea on chronic kidney disease." Current hypertension reports 12.5 (2010): 378-83.
101. Lin CH, Perger E, & Lyons, O. D. Obstructive sleep apnea and chronic kidney disease. Current opinion in pulmonary medicine, 24(6), 2018:549-54.
102. Havlucu, Y., et al. "Pulmonary hypertension in patients with chronic renal failure." Respiration 74.5 2007: 503-10.

PROFORMA

SERIAL NO.-

NAME-

AGE- SEX-

MRD NO.- ADMISSION NO.-

DATE OF ADMISSION-

CONTACT INFO-

Etiology of CKD-

Duration of diagnosis of CKD-

GFR of patient-

Stage of CKD-

Duration of dialysis-

Mode of dialysis- Haemodialysis or CAPD

Frequency of dialysis advised-

Number of hours of dialysis/week advised-

Compliance of dialysis - yes/ no

If no, Actual frequency of dialysis-

Actual number of hours of dialysis/week-

Any intradialytic complications- yes/ no

(hypotension, arrythymia etc)

Any other comorbid conditions-

RESPIRATORY COMPLAINT-		**DURATION**
Dyspnea	yes/no	
Chest pain	yes/no	
Cough	yes/no	
Sputum production	yes/no	
Hemoptysis	yes/no	
Fever	yes/no	
Pedal edema	yes/no	
Hiccough	yes/no	
Any other respiratory complaint		
Any other systemic complaints		

Signature of Candidate **Signature of Supervisor**

PAST MEDICAL HISTORY-

TREATMENT HISTORY-

PERSONAL HISTORY-

GENERAL PHYSICAL EXAMINATION-

APPEARANCE- SENSORIUM-

VITALS-

HR- RR- BP- TEMPERATURE-

PALLOR- ICTERUS- CYANOSIS- EDEMA-

JVP- CLUBBING- LYMPHADENOPATHY-

SYSTEMIC EXAMINATION-

CNS-

CVS-

P/A-

RESPIRATORY-

- INSPECTION:
- PALPATION:
- PERCUSSION:
- AUSCULTATION: AIR ENTRY-

  TYPE OF BREATHING-

  CREPTS/RHONCHI-

  VOCAL RESONANCE-

Signature of Candidate **Signature of Supervisor**

INVESTIGATIONS-

DATE			
Hb (g/dl)			
TLC (X 10^3/ul)			
DLC			
PLATELETS (X10^3/ul)			
ESR			
GLUCOSE (mg/dl)			
UREA (mg/dl)			
CREATININE (mg/dl)			
Na/K/Cl (mEq/l)			
Ca/PO4/Mg (mg/dl)			
T.BILIRUBIN (mg/dl)			
D.BILIRUBIN (mg/dl)			
SGOT (U/L)			
SGPT (U/L)			
ALP (U/L)			
T.PROTEIN (g/dl)			
ALBUMIN (g/dl)			
PTI-INR			

URINE ANALYSIS:

- Proteins-
- Glucose-
- Microscopy-

Signature of Candidate **Signature of Supervisor**

CHEST X-RAY FINDINGS:

- Cardiomegaly-
- Pleural effusion-
- Pulmonary edema-
- Cavitary lesion-
- Pleural thickening-
- Pulmonary hypertension-
- Pulmonary calcification-
- Consolidation-
- Pulmonary infilterates-
- Interstitial lung disease-
- Others-

SPUTUM ANALYSIS:

- Gram staining-
- Culture sensitivity-
- AFB smear-
- Nocardia-
- Fungus smear-
- CBNAAT-
- Malignant cytology-

PLEURAL FLUID ANALYSIS:

- Cytology-
- Biochemistry-
- ADA-
- LDH-
- Culture sensitivity-
- CBNAAT-
- AFB smear

CT CHEST FINDINGS:

- Pleural effusion-
- Pulmonary edema-
- Cavitary lesion-
- Pleural thickening-
- Pulmonary hypertension-

Signature of Candidate **Signature of Supervisor**

- Pulmonary calcification-
- Consolidation-
- Pulmonary infilterates-
- Interstitial lung disease-
- Others-

PULMONARY FUNCTIONS TEST:

		PRE			POST	
FORCED VITAL CAPACITY	Predicted	Observed	%Predicted	Observed	%Predicted	%Change
1.FVC(L)						
2.FEV1(L)						
3.FEV1/FVC(%)						
DLCO						
1.Vol insp (L)						
2.Tlco(ml/mmHg/Mi)						
3.Kco (DLCO/L)						

2D-ECHO:

BNP LEVELS:

ANY OTHER INVESTIGATIONS DONE:

DIAGNOSIS OF PULMONARY DISEASE-

OUTCOME (AT THE END OF HOSPITAL STAY)-

Signature of Candidate **Signature of Supervisor**

KEY TO MASTERCHART

Etiology of CKD

1. DIABETIC NEPHROPATHY
2. HYPERTENSIVE NEPHROPATHY
3. NSAID INDUCED NEPHROPATHY
4. CHRONIC GLOMERULONEPHRITIS
5. IGA NEPHROPATHY
6. ADPKD

Respiratory complaints

1. DYSPNEA
2. CHEST PAIN
3. COUGH
4. SPUTUM PRODUCTION
5. HEMOPTYSIS
6. FEVER
7. PEDAL EDEMA
8. HICCOUGH

Past medical history

1. DIABETES MELLITUS
2. HYPERTENSION
3. HYPOTHYROIDISM
4. CAD
5. COPD/BRONCHIAL ASTHMA
6. MALIGNANCY
7. SLE
8. APLA SYNDROME
9. IGA VASCULITIS

Personal history

1. SMOKER
2. ALCOHOLIC
3. OTHER SUBSTANCE ABUSE

Sputum gram stain

1. GRAM NEGATIVE BACILLI
2. GRAM POSITIVE COCCI
3. GRAM NEGATIVE COCCOBACILLI

Sputum culture sensitivity

1. KLEBSILLA PNEUMONIAE
2. E.COLI
3. PSEUDOMONAS AERUGINOSA
4. ACINETOBACTER BAUMANNII
5. NO GROWTH
6. STREPTOCOCCUS PNEUMONIAE
7. STAPHYLOCOCCUS AUREUS
8. CANDIDA

Sputum fungal smear

1. BUDDING YEAST LIKE CELLS
2. HYALINE SEPTATE FUNGI

SR NO.	NAME	AGE(in years)	SEX	MRD number	DATE OF ADMISSION	ETIOLOGY OF CKD	DURATION OF CKD	GFR of patient(ml/min/1.72m2)	STAGE OF CKD	ON MAINTENANCE HAEMODIALYSIS	DURATION OF DIALYSIS	MODE OF DIALYSIS	FREQUENCY OF DIALYSIS ADVISED	COMPLIANCE OF DIALYSIS	ACTUAL FRQUENCY OF DIALYSIS	INTRADIALYTIC COMPLICATIONS	RESPIRATORY COMPLAINTS									PAST MEDICAL HISTORY			
																	DYSPNEA	CHEST PAIN	COUGH	SPUTUM PRODUCTION	HEMOPTYSIS	FEVER	PEDAL EDEMA	HICCOUGH	OTHERS	DM	HYPERTENSIO	HYPOTHYROID	CAD
1	SS	67	MALE	642685	06-01-2019	2	10 MONTHS	6	5 D	YES	1 MONTH	HAEMODIALYSIS	ONCE A WEEK	YES		NO	1		3	4		6	7				2		
2	GS	58	MALE	330245	12-01-2019	1	10 YEARS	10	5 D	YES	17 MONTHS	HAEMODIALYSIS	ONCE A WEEK	YES		NO	1		3	4		6				1	2		
3	BK	50	MALE	647322	13-01-2019	1	1 YEAR	46	3a	NO							1						7			1	2		
4	RK	57	MALE	850120	15-01-2019	1	6 MONTHS	16	4	NO							1						7			1			
5	MS	65	MALE	429267	23-01-2019	1	2 YEARS	21	4	NO							1	2					7			1			
6	DR	72	MALE	666123	05-02-2019	1	2 MONTHS	25	4	NO							1		3				7			1	2		
7	HS	56	MALE	673983	19-02-2019	1	2 MONTHS	24	4	NO							1		3							1			
8	RG	82	MALE	851644	17-02-2019	1	2 YEARS	21	4	NO							1		3				7			1	2		4
9	A	63	FEMALE	42451	22-02-2019	1	8 MONTHS	18	4	NO								2					7			1	2	3	
10	HS	55	MALE	899997	16-02-2019	1	3 YEARS	4	5 D	YES	5 MONTHS	HAEMODIALYSIS	TWICE A WEEK	YES		YES	1	2	3				7			1	2		4
11	DS	65	MALE	895664	09-02-2019	1	2 YEARS	21	4	NO							1						7			1			
12	NS	62	FEMALE	775824	01-03-2019	1	1 YEAR	26	4	NO							1						7			1	2		4
13	GK	58	FEMALE	57391	08-04-2019	1	1.5 YEARS	15	4	NO							1						7			1	2		4
14	SK	75	FEMALE	707986	12-04-2019	2	6 MONTHS	10	5	NO							1		3				7				2	3	
15	RC	60	MALE	712587	20-04-2019	4	2 YEARS	19	4	NO							1		3								2		4
16	KM	76	FEMALE	199195	26-04-2019	1	2 YEARS	9	5	NO									3	4		6				1	2		4
17	KS	46	MALE	726962	12-05-2019	1	2 YEARS	19	4	NO							1						7			1			
18	SD	70	FEMALE	523879	17-05-2019	1	1 YEAR	14	5	NO							1		3	4		6				1			
19	JS	65	MALE	731456	18-05-2019	1	1 YEAR	8	5	NO							1						7			1			
20	MK	36	FEMALE	710159	20-05-2019	4	6 MONTHS	6	5 D	YES	2 MONTHS	HAEMODIALYSIS	THRICE A WEEK	YES		NO	1						7						
21	PK	57	MALE	735256	25-05-2019	1	2 YEARS	5	5 D	YES	1 YEAR	HAEMODIALYSIS	ONCE A WEEK	YES		NO	1		3	4					DROWSINESS X 3 DAYS	1	2		4
22	BM	73	MALE	876023	04-05-2019	1	1 YEAR	13	5	NO							1									1	2		4

SR NO.	NAME			PERSONAL HISTORY			VITALS				GENERAL PHYSICAL EXAMINATION							SYSTEMIC EXAMINATION			RESPIRATORY EXAMINATION					DIAGNOSIS ON BASIS OF RESPIRATORY EXAMINATION	ANAEMIA	GRADE OF ANAEMIA	INVESTIGATIONS				
		COPD/BRONCHIAL	OTHERS	SMOKING	ALCOHOL	OTHER SUBSTAN	HR	RR	BP(mmHG)TEMPERATURE	TEMPERTURE	PALLOR	ICTER	CYANOSIS	EDEMA	JVP	CLUBBING	LYMPHADENOPA	CNS	CVS	P/A	PERCUSSION	AUSCULTATION							Hb	TLC	PLATELETS	ESR	UREA
																						AIR ENTRY	TYPE OF BREATHING	CREPTS/RHONCHI	VOCAL RESONANCE								
1	SS	5		1-40 PACK YEARS			112	22	140/80	99.6	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED B/L LZ	RIGHT LZ BRONCHIAL	RIGHT SIDE CREPTS	INCREASED RIGHT LZ	RIGHT LZ CONSOLIDATION WITH	PRESENT	SEVERE	7.2	18.4	120	90	231
2	GS						110	22	110/90	100.4	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS	RIGHT SIDE CREPTS	DECREASED RIGHT LZ	RIGHT LZ CONSOLIDATION WITH RIGHT PLEURAL	PRESENT	SEVERE	7.9	12.7	189	36	112
3	BK						96	20	140/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8	5.8	110	110	104
4	RK						92	20	130/80	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.1	13.4	284	120	249
5	MS						82	18	110/70	98.6	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.8	5.7	60		132
6	DR						94	22	140/90	98.8	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	ABSENT		12.1	15.3	251	34	44
7	HS						88	16	120/70	98.4	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.1	10	314	118	162
8	RG						102	20	130/80	97.8	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.9	7.3	203	120	151
9	A						90	24	140/90	100	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS	B/L CREPTS	DECREASED RIGHT LZ	PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	PRESENT	MODERATE	8.5	12.2	94	113	76
10	HS						88	22	110/70	98.8	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS		DECREASED RIGHT LZ	PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	PRESENT	SEVERE	6	10	298		169
11	DS						86	20	110/70	98	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.8	23.2	341		214
12	NS						82	22	120/80	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	NVBS	B/L CREPTS	DECREASED LEFT LZ	PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	PRESENT	MODERATE	7.2	10.3	549	120	66
13	GK						88	22	140/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.3	8.9	325		163
14	SK						79	16	130/80	98.8	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	7.1	9.2	298	125	171
15	RC			1-20 PACK YEARS			89	26	110/70	100	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L RHONCHI	NORMAL	COAD WITH ACUTE EXACERBATION	PRESENT	MODERATE	8.7	12.9	174		68
16	KM						112	26	160/90	100.2	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECRAESED LEFT LZ	NVBS	B/L CREPTS	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION WITH LEFT PLEURAL EFFUSION WITH PULMONARY EDEMA	ABSENT		12.2	13.6	132	60	151
17	KS						102	20	110/70	98.8	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	7.5	25.6	429	70	40
18	SD						108	24	100/60	100.4	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULLNESS LEFT LZ	DECREASED LEFT LZ	LEFT LZ BRONCHIAL BREATHING	B/L CREPTS	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION WITH PULMONARY EDEMA	PRESENT	MODERATE	9.7	14.1	139		182
19	JS						92	22	110/70	98.8	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.6	12.9	356		249
20	MK		7				80	18	110/60	98.4	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	7.5	11.7	206		244
21	PK	5		1			90	26	120/70	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULLNESS OF RIGHT MZ	NORMAL	RIGHT MZ BRONCHIAL BREATHING	RIGHT SIDE CREPTS	INCREASED RIGHT MZ	RIGHT MZ CONSOLIDATION	PRESENT	MODERATE	8.3	11.8	208	57	123
22	BM						88	20	140/90	98.8	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.8	10.6	222	75	149

SR NO.	NAME						URINE ANALYSIS			CHEST XRAY FINDINGS										DIAGNOSIS ON BASIS OF RADIOLOGICAL FINDINGS	PLEURAL EFFUSION		SITE OF PNEUMONIA	SPUTUM ANALYSIS			
		CREATININE	Na/K/Cl	Ca/PO4/Mg	SGOT/PT	ALBUMIN	PROTEINS	GLUCOSE	MICROSCOPY	CARDIOMEGALY	PLEURAL EFFUSION	PULMONARY EDEMA	CONSOLIDATION	HYPERINFLATED LUNGS	PULMONARY HYPERTENSI	PLEURAL THICKENING	PULMONARY CALCIFICATIO	CAVITATORY LESION	PULMONARY INFILTERATES		GRADES	SITE		GRAM STAININ	CULTURE SENSITIVITY	AFB SMEAR	NOCARDIA
1	SS	9.15	138/5.1/97	6.9/8.8/2.3	34/30	3.6	3+	ABSENT	NORMAL	PRESENT	PRESENT	PRESENT	PRESENT							RIGHT LZ PNEUMONIA WITH PULMONARY	MODERATE	BILATERAL	RIGHT LOWER ZONE	1	1		
2	GS	5.52	148/3.2/106		93/16	2.7	2+	ABSENT	PUS CELLS	PRESENT	PRESENT	ABSENT	PRESENT							RIGHT MZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION	MODERATE	RIGHT SIDE	RIGHT MIDDLE ZONE	2	5		
3	BK	7.7	147/5.8/106		16/14	3.1	3+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
4	RK	7.02	141/3.94/101	8.1/4.4/2.9	40/28	2.16	3+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
5	MS	4.73	139/5.4/108		44/33	3.03	2+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
6	DR	2.4	111/4.72/69	8.3/4.0/1.84	49/26	3.4	3+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
7	HS	5.08	135/6.21/103	7.0/6.7/2.7	18/18	2.54	3+	ABSENT	PUS CELLS	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
8	RG	4.7	136/6.7/100	8.7/4.57/2.5	33/24	3.44	2+	ABSENT	NORMAL	PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
9	A	3.47	141/4.53/104	8.4/6/5/2.07	94/65	3.1	3+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	SEVERE	RIGHT SIDE					
10	HS	8.16	138/6.38/96	8.8/4.4	39/44	3.8	3+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT		PRESENT					PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	SEVERE	BILATERAL					
11	DS	5.66	122/5.92/95	7.0/7.1	20/16	3.03	3+	ABSENT	PUS CELLS	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
12	NS	2.51	136/3.7/105	7.4/5.2	21/13	1.99	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	MILD	BILATERAL					
13	GK	8.53	139/5.47/106	8.4/8.3	72/56	2.81	3+	ABSENT	PUS CELLS + RBC'S	PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
14	SK	10.79	137/5.32/104	7.8/11.8	17/13	3.3	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
15	RC	3.55	137/3.62/101	7.9/5.3/3.4	31/15	3	3+	ABSENT	NORMAL	ABSENT	ABSENT	ABSENT	ABSENT	PRESENT						HYPERINFLATED LUNGS							
16	KM	6.9	140/4.61/109	8.4/4.49	13/14	3.2	2+	PRESENT	NORMAL	PRESENT	PRESENT	PRESENT	PRESENT							LEFT LZ PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MODERATE	BILATERAL	LEFT LOWER ZONE	2	5		
17	KS	3.67	136/4.94/97	8.8/5.37/2.43	16/13	2.88	3+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
18	SD	6.5	135/4.36/101		19/30	2.02	3+	PRESENT	NORMAL	PRESENT	PRESENT	PRESENT	PRESENT				PRESENT			LEFT LZ PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MODERATE	BILATERAL	LEFT LOWER ZONE	1,2	1		
19	JS	9.43	129/8.3/98	7.4/8.47	23/32	4.1	3+	PRESENT	RBC'S	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
20	MK	10.7	136/5/94				3+	ABSENT	PUS CELLS	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
21	PK	8.91	142/5.9/103	7.7/7.5/2.8	20/21	4	2+	ABSENT	NORMAL	ABSENT	ABSENT	ABSENT	PRESENT	PRESENT						RIGHT MZ PNEUMONIA			RIGHT BRONCHOPNEUMONIA	2	5		
22	BM	4.94	138/5.43/102	8.4/5.8/2.57	25/22	3.64	2+	PRESENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	MODERATE	BILATERAL					

SR NO.	NAME	PLEURAL FLUID ANALYSIS											CT CHEST FINDINGS				LEFT VENTRICULAR DYSFUNCTION	SYSTOLIC/DIASTOLIC DYSFUNCTION	LV SYSTOLIC DYSFUNCTION GRADE	LEFT VENTRICULAR EF	PULMONARY ARTERY HYPERTENSION ON ECHO	BNP LEVELS	OTHERS REPORTS	TYPE 2 RESPIRATORY FAILURE	INTUBATED DURING HOSPITAL STAY
		FUNGUS	CBNAAT	CYTOLOGY	BIOCHEMISTRY	ADA	LDH	GRAM STAINING	CULTURE SENSITIVITY	CBNAAT	AFB SMEAR	TYPE OF PLEURAL FLUID	PLEURAL EFFUSION	PULMONARY EDEMA	CONSOLIDATION	OTHERS									
1	SS			TLC-100/ LYMPH-78%, NEUTR-22%	ALB-2.4/GLU-92/PRT-4.1	12.5	131		NO GROWTH			TRANSUDATIVE					LV DYSFUNCTION	DIASTOLIC		60	MODERATE	1050			YES
2	GS																NORMAL LV FUNCTION			60	ABSENT	2150			
3	BK			TLC-100, LYMP-85%, NEUT-15%	ALB-0.9, GLU-92, PROT-1.6	3.5	110		NO GROWTH			TRANSUDATIVE					NORMAL LV FUNCTION			60	ABSENT	826			
4	RK																NORMAL LV FUNCTION			60	ABSENT	565			
5	MS																LV DYSFUNCTION	SYSTOLIC	SEVERE	30	ABSENT	914			
6	DR																LV DYSFUNCTION	SYSTOLIC	MILD	45	MODERATE	737			
7	HS																LV DYSFUNCTION	SYSTOLIC	MILD	45	ABSENT	1820			
8	RG																LV DYSFUNCTION	SYSTOLIC	MODERATE	38	MODERATE	2090			
9	A			TLC-200, LYMP-70%, NEUT-30%	ALB-1.01, GLU-184, PRT- 2.	15.89	87		NO GROWTH			TRANSUDATIVE					NORMAL LV FUNCTION			60	ABSENT	846			
10	HS			TLC-400, LYMP-90%, NEUT-10%	ALB-2.39, GLU-137, PRT-4.7	15.1	133		NO GROWTH			TRANSUDATIVE					LV DYSFUNCTION	SYSTOLIC	MODERATE	36	SEVERE	1068			
11	DS																NORMAL LV FUNCTION			60	ABSENT	2490			
12	NS																LV DYSFUNCTION	SYSTOLIC	MILD	45	ABSENT	555			
13	GK																LV DYSFUNCTION	SYSTOLIC	SEVERE	22	MODERATE	1160			
14	SK												B/L PLEURAL EFFUSION	PRESENT			NORMAL LV FUNCTION			60	ABSENT	1127	USG ABDOMEN-CLD		
15	RC																NORMAL LV FUNCTION			55	SEVERE	84	Pco2- 68mmHG	PRESENT	
16	KM																LV DYSFUNCTION	SYSTOLIC	MODERATE	40	ABSENT	2500			
17	KS			TLC-100, LYMP-90%, NEUT-10%	ALB-1.39, GLU-119, PRT-2.6	11.2	87		NO GROWTH			TRANSUDATIVE					NORMAL LV FUNCTION			60	ABSENT	68			
18	SD			TLC-150. LYMP-80%, NEUT-20%	ALB-0.86,PRT-2.1, GLU-326	6.95	94		NO GROWTH			TRANSUDATIVE					LV DYSFUNCTION	SYSTOLIC	SEVERE	27	MODERATE	2090			YES
19	JS																NORMAL LV FUNCTION			60	ABSENT	1260	ANA-2+		
20	MK																LV DYSFUNCTION	SYSTOLIC	MILD	46	MODERATE	460			
21	PK																NORMAL LV FUNCTION			55	ABSENT	340	Pco2- 50mmHG	PRESENT	
22	BM																LV DYSFUNCTION	SYSTOLIC	MODERATE	35	ABSENT	1136			

SR NO.	NAME	RESPIRATORY MANIFESTATIONS							FINAL DIAGNOSIS OF PULMONARY DISEASE	ETOLOGY OF PLEURAL EFFUSION	OUTCOME AT END OF HOSPITAL STAY	DOD
		PULMONARY EDEMA	PLEURAL EFFUSION	PNEUMONIA	TUBERCULOSIS	WORSENING OF	PH	PULMONARY EMBOLISM				
1	SS	PRESENT	PRESENT	PRESENT			PRESENT		PNEUMONIA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	16-01-2019
2	GS		PRESENT	PRESENT					PNEUMONIA WITH PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	01-02-2019
3	BK	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	17-01-2019
4	RK	PRESENT							PULMONARY EDEMA		DISCHARGED	30-01-2019
5	MS	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	29-01-2019
6	DR	PRESENT	PRESENT				PRESENT		PULMOMARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	14-02-2019
7	HS	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	25-02-2019
8	RG	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	23-02-2019
9	A	PRESENT	PRESENT						PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	23-03-2019
10	HS	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	01-03-2019
11	DS	PRESENT							PULMONARY EDEMA		DAMA	20-02-2019
12	NS	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	12-03-2019
13	GK	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	14-04-2019
14	SK	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	20-04-2019
15	RC					PRESENT	PRESENT		COAD WITH ACUTE EXACERBATION		DISCHARGED	28-04-2019
16	KM	PRESENT	PRESENT	PRESENT					PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DISCHARGED	02-05-2019
17	KS	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DAMA	19-05-2019
18	SD	PRESENT	PRESENT	PRESENT			PRESENT		PNEUMONIA WITH PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DISCHARGED	23-05-2019
19	JS	PRESENT							PULMONARY EDEMA		DISCHARGED	28-05-2019
20	MK	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DAMA	25-05-2019
21	PK			PRESENT		PRESENT			COAD WITH ACUTE EXACERBATION WITH RIGHT SIDE PNEUMONIA		DISCHARGED	28-05-2019
22	BM	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	08-05-2019

SR NO.	NAME	AGE(in years)	SEX	MRD number	DATE OF ADMISSION	ETIOLOGY OF CKD	DURATION OF CKD	GFR of patient(ml/min/1.72m2)	STAGE OF CKD	ON MAINTENANCE HAEMODIALYSIS	DURATION OF DIALYSIS	MODE OF DIALYSIS	FREQUENCY OF DIALYSIS ADVISED	COMPLIANCE OF DIALYSIS	ACTUAL FRQUENCY OF DIALYSIS	INTRADIALYTIC COMPLICATIONS	RESPIRATORY COMPLAINTS									PAST MEDICAL HISTORY			
23	HS	61	MALE	407540	17-05-2019	1	3 YEARS	7	5 D	YES	2 MONTHS	HAEMODIALYSIS	TWICE A WEEK	NO	THRICE A WEEK	YES	1		3				7			1	2		4
24	AK	61	FEMALE	579084	06-05-2019	1	6 MONTHS	16	4	NO									3	4		6				1			
25	DD	67	FEMALE	875387	03-05-2019	1	5 YEARS	18	4	NO							1						7			1	2		4
26	CR	77	MALE	649873	22-05-2019	1	5 MONTHS	25	4	NO	5 MONTHS						1		3	4		6				1	2		
27	BC	75	MALE	694857	29-05-2019	1	4 YEARS	8	5	NO							1						7			1			4
28	GS	42	MALE	692742	29-05-2019	1	3 MONTHS	13	5 D	YES	1 MONTH	HAEMODIALYSIS	TWICE A WEEK	NO	THRICE A WEEK	NO	1						7			1	2		4
29	AS	59	MALE	507107	28-05-2019	1	4 YEARS	9	5 D	YES	6 MONTHS	HAEMODIALY	ONCE A	NO	ONCE A	YES	1						7			1	2		4
30	NS	70	MALE	561608	29-05-2019	1	2 YEARS	10	5	NO							1									1	2		
	RM	66	MALE	739422	31-05-2020	1	4 MONTHS	16	4	NO							1						7			1	2		
32	SB	55	FEMALE	74727	14-06-2019	1	2 YEARS	10	5	NO									3	4		6				1			
33	OP	57	MALE	560283	31/06/2019	1	6 MONTHS	19	4	NO							1									1			
34	CK	35	FEMALE	858100	24-06-2019	1	3 MONTHS	14	5	NO							1						7			1	2		
35	AW	44	FEMALE	758324	01-07-2019	3	8 MONTHS	4	5 D	YES	6 MONTHS	HAEMODIALYSIS	TWICE A WEEK	NO	ONCE A WEEK	NO	1						7						
36	KS	76	FEMALE	81457	17-07-2019	1	6 MONTHS	14	5	NO							1						7			1	2		
37	RC	61	MALE	209617	20-07-2019	1	1 YEAR	8	5 D	YES	6 MONTHS	HAEMODIALYSIS	TWICE A WEEK	YES		NO	1		3	4			7			1			
38	PK	50	FEMALE	772686	22-07-2019	1	4 MONTHS	14	5	NO							1						7			1	2	3	4
39	JA	56	FEMALE	773627	23-07-2019	1	2 MONTHS	18	4	NO									3	4		6			DROWSINESS X 1 DAY	1	2		
40	JK	57	FEMALE	779688	01-08-2019	1	6 MONTHS	20	4	NO							1		3	4						1	2		
41	HR	85	MALE	736811	04-08-2019	1	6 MONTHS	17	4	NO							1						7			1	2		4
42	SK	55	FEMALE	653446	06-08-2019	2	6 MONTHS	10	5D	YES	1 MONTH	HAEMODIALYSIS	TWICE A WEEK	NO	THRICE A WEEK	YES	1						7				2		4
43	SD	46	FEMALE	630328	14-08-2019	1	6 MONTHS	14	5	NO							1									1	2		
44	NPS	27	MALE	649739	12-08-2019	5	10 MONTHS	5	5D	YES	7 MONTHS	HAEMODIALYSIS	THRICE A WEEK	NO	TWICE A WEEK	YES	1										2		
45	JB	64	MALE	676457	08-08-2019	1	2 MONTHS	49	3a	NO							1		3	4						1	2		
46	UK	70	FEMALE	783011	06-08-2019	1	2 MONTHS	18	4	NO							1						7			1	2		

SR NO.	NAME			PERSONAL HISTORY			VITALS				GENERAL PHYSICAL EXAMINATION							SYSTEMIC EXAMINATION			RESPIRATORY EXAMINATION					DIAGNOSIS ON BASIS OF RESPIRATORY EXAMINATION	ANAEMIA	GRADE OF ANAEMIA	INVESTIGATIONS				
23	HS				2		98	28	130/80	98.6	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.6	11.1	130	120	199
24	AK						102	22	110/70	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	NORMAL	LEFT LZ BRONCHIAL BREATHING	LEFT SIDE CREPTS	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION	ABSENT		13.2	24.2	180	97	196
25	DD						89	20	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	DECRAESED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8	6.3	126		73
26	CR				2		89	20	110/70	100	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	DECREASED B/L SIDE	B/L BRONCHIAL BREATHING		INCREASED LEFT LZ	B/L CONSOLIDATION	ABSENT		13.3	16.3	150	44	138
27	BC						92	20	140/90	98.6	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.1	11.5	177		292
28	GS				2		89	18	130/80	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.6	14.7	441	90	101
29	AS						90	20	130/70	98.6	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE	DECREASED	NVBS	RIGHT SIDE	DECREASED	PULMONARY EDEMA	PRESENT	SEVERE	4.3	6	180	110	230
30	NS						84	24	130/70	98.8	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.9	6	360	66	163
	RM						88	20	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.6	10.6	110		234
32	SB						84	20	130/70	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	NORMAL	RIGHT LZ BRONCHIAL BREATHING	B/L CREPTS	INCREASED RIGHT LZ	B/L CONSOLIDATION	PRESENT	SEVERE	7	8.7	260	90	115
33	OP						80	20	110/70	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	7.7	9.8	159	28	225
34	CK						90	22	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	RIGHT SIDE CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	7.4	10.2	108		206
35	AW		8				82	20	150/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	7.9	14	105	140	136
36	KS						92	18	120/70	99	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.1	6.7	264	26	121
37	RC						112	24	100/70	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS	LEFT SIDE CREPTS	DECREASED RIGHT LZ	RIGHT PLEURAL EFFUSION WITH PULMONARY EDEMA	ABSENT		12.7	9.7	190	37	87
38	PK						84	20	110/72	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	NVBS	RIGHT SIDE CREPTS	DECREASED LEFT LZ	PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	PRESENT	SEVERE	7.5	11.9	211	106	157
39	JA						88	20	130/70	100	ABSENT		PRESENT	ABSENT				ABNORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	NORMAL	LEFT LZ BRONCHIAL BREATHING		INCREASED LEFT LZ	LEFT LZ CONSOLIDATION	PRESENT	MODERATE	9.4	17.1	263	41	96
40	JK						92	20	120/70	99.8	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	LEFT LZ BRONCHIAL BREATHING		INCREASED LEFT SIDE	LEFT LZ CONSOLIDATION	ABSENT		12.4	14.6	191	105	203
41	HR						84	18	90/60	98	PRESENT		PRESENT	PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MILD	11.2	13.3	146		182
42	SK		6				88	24	110/80	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	NVBS	RIGHT SIDE CREPTS	DECREASED LEFT LZ	PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	PRESENT	MILD	11.8	10.2	150	18	120
43	SD						80	22	110/70	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	5.3	15.9	343	85	226
44	NPS		9				112	20	140/90	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	ABSENT		9.9	15.8	162	2	144
45	JB			1			124	ON MV	110/70	100	ABSENT		PRESENT	ABSENT				ABNORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	LEFT LZ BRONCHIAL BREATHING	B/L CREPTS	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION WITH PULMONARY EDEMA	ABSENT		13.2	19.9	202		53
46	UK						88	ON MV	110/70	98	ABSENT		PRESENT	PRESENT				ABNORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.9	17.7	191	28	96

SR NO.	NAME						URINE ANALYSIS			CHEST XRAY FINDINGS										DIAGNOSIS ON BASIS OF RADIOLOGICAL FINDINGS	PLEURAL EFFUSION		SITE OF PNEUMONIA	SPUTUM ANALYSIS			
23	HS	11.02	134/3.9/90	8.7/7.5/3	18/23	3.45	3+	ABSENT	PUS CELLS	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
24	AK	8.29	134/6.1/101	9/5.66	27/26	3	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	ABSENT	PRESENT							LEFT LZ PNEUMONIA WITH LEFT PLEURAL EFFUSION	MILD	LEFT SIDE	LEFT LOWER ZONE	2	1		
25	DD	3.68	146/4.06/111				2+	ABSENT	NORMAL	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
26	CR	2.38	135/4.7/104	9.2/5.7/2	34/18	2.55	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	ABSENT	ABSENT							B/L PNEUMONIA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL	B/L BRONCHOPNEUMONIA	1,2	2		
27	BC	8.67	137/3.9/92	6.0/7.7	22/14	4.02	2+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	MILD	BILATERAL					
28	GS	5.81	137/4.74/100	9.4/4.6	13/14	3	3+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT			PRESENT				PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
29	AS	8.4	138/6/100	7.6/4.5/3.4	124/42	2.8	3+	ABSENT	PUS CELLS	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
30	NS	11.4	141/4/102	5.7/10.8	13/13	2.7	3+	PRESENT	RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
	RM	5.58	130/4.85/100		30/13	2.6	3+	PRESENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
32	SB	4.58	127/5.4/100	8.4/4.5	22/14	2.6	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	ABSENT	ABSENT							B/L PNEUMONIA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL	B/L BRONCHOPNEUMONIA	1,2	5		
33	OP	8.9	163/4.9/123	8/4.4	16/17	4.2				ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH PLEURAL EFFUSION	MODERATE	BILATERAL					
34	CK	6.03	132/4.3/94				2+	ABSENT	NORMAL,PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	SEVERE	BILATERAL					
35	AW	7.44	135/5.3/2.33	7.9/5.9	39/35	3.1	2+	ABSENT	PUS CELLS	PRESENT	ABSENT	PRESENT	ABSENT		PRESENT					PULMONARY EDEMA							
36	KS	4.73	137/4.7/101	6.9/4.6	16/18	2.6	2+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
37	RC	6.01	144/3.9/103	9.2/2.8	94/87	3.1	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	PRESENT							RIGHT MZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION WITH PULMONARY EDEMA	SEVERE	RIGHT SIDE	RIGHT MIDDLE ZONE	1,2	5		
38	PK	4.36	134/3.1/98	8.2/8.37		2.9	2+	ABSENT	PUS CELLS	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	MODERATE	BILATERAL					
39	JA	3.6	117/7.68/85	9.9/2.7	66/46	3.7	2+	PRESENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT							LEFT LZ PNEUMONIA WITH LEFT PLEURAL EFFUSION	MILD	LEFT SIDE	LEFT LOWER ZONE	1	5		
40	JK	5.73	138/6.4/97	7.9/6.41	15/17	2.69	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	ABSENT	PRESENT							LEFT LZ PNEUMONIA WITH LEFT PLEURAL EFFUSION	MODERATE	LEFT SIDE	LEFT BRONCHOPNEUMONIA	1	1		
41	HR	4	138/4.1/99	8.6/9	29/66	2.75	2+	ABSENT	NORMAL	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
42	SK	7.7	140/3.89/102	7.6/6.4	106/16	2.9	2+	ABSENT	PUS CELLS + RBC'S	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	MODERATE	LEFT SIDE					
43	SD	6.41	131/4.9/97	5.1/8.2	210/133	2.8	2+	PRESENT	PUS CELLS	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
44	NPS	11.3	139/5.7/105	10.7/3.8	13/18	3.3	3+	ABSENT	RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
45	JB	1.8	123/6.83	9.2/3.9	44/24	3.5	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	PRESENT							LEFT LZ PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MILD	BILATERAL	LEFT BRONCHOPNEUMONIA	1	1		
46	UK	4.29	134/5.4/101	9.3/4.3	322/118	3.8	2+	ABSENT	PUS CELLS	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH PLEURAL EFFUSION	MILD	BILATERAL					

SR NO.	NAME			PLEURAL FLUID ANALYSIS									CT CHEST FINDINGS				LEFT VENTRICULAR DYSFUNCTION	SYSTOLIC/DIASTOLIC DYSFUNCTION	LV SYSTOLIC DYSFUNCTION GRADE	LEFT VENTRICULAR EF	PULMONARY ARTERY HYPERTENSION ON ECHO	BNP LEVELS	OTHERS REPORTS	TYPE 2 RESPIRATORY FAILURE	INTUBATED DURING HOSPITAL STAY
23	HS																LV DYSFUNCTION	SYSTOLIC	SEVERE	28	ABSENT	1730			
24	AK																					248			
25	DD																LV DYSFUNCTION	SYSTOLIC	MODERATE	32	MODERATE	2400	USG CHEST-B/L PLEURAL EFFUSION		
26	CR												B/L PLEURAL EFFUSION		B/L CONSOLIDATION-INFECTIVE		NORMAL LV FUNCTION			60	ABSENT	178			
27	BC																LV DYSFUNCTION	SYSTOLIC	MILD	40	MILD	3780			
28	GS			TLC-400, LYMP-88%. NEUT-12%	ALB-1.0, GLU-359, PRT-1.8	5.9	107		NO GROWTH			TRANSUDATIVE					LV DYSFUNCTION	SYSTOLIC	MILD	42	ABSENT	391			
29	AS																LV DYSFUNCTION	SYSTOLIC	MODERATE	32	MODERATE	2600			
30	NS																NORMAL LV FUNCTION			60	ABSENT	1140			
	RM																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	42	USG ABDOMEN-		
32	SB												B/L PLEURAL EFFUSION		B/L CONSOLIDATION		LV DYSFUNCTION	DIASTOLIC		52	ABSENT	437			
33	OP																NORMAL LV FUNCTION			60	ABSENT	1140			
34	CK			TLC-300, MNC-90%, NEUT-10%	ALB-0.51, GLU-353, PRT-1.4	9.19	82		NO GROWTH			TRANSUDATIVE					NORMAL LV FUNCTION			60	MODERATE				
35	AW																NORMAL LV FUNCTION			60	SEVERE				
36	KS																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	840			
37	RC			TLC-300, LYMP-90%, NEUT-10%	ALB-1.74, PRT-3.3, GLU-260	18	134		NO GROWTH			TRANSUDATIVE					LV DYSFUNCTION	SYSTOLIC	SEVERE	18	MODERATE	5000			
38	PK																LV DYSFUNCTION	SYSTOLIC	MODERATE	32	ABSENT	2090			
39	JA																NORMAL LV FUNCTION			60	ABSENT	2240	Pco2-63	PRESENT	YES
40	JK																NORMAL LV FUNCTION			60	ABSENT	286			
41	HR																LV DYSFUNCTION	SYSTOLIC	SEVERE	22	ABSENT	5000			
42	SK																LV DYSFUNCTION	SYSTOLIC	SEVERE	25	MILD	5000			
43	SD																LV DYSFUNCTION	SYSTOLIC	MILD	45	ABSENT	846			
44	NPS																NORMAL LV FUNCTION			60	ABSENT	3860			
45	JB	1															LV DYSFUNCTION	SYSTOLIC	SEVERE	25	ABSENT	189			YES
46	UK																NORMAL LV FUNCTION			60	ABSENT	283			YES

SR NO.	NAME	RESPIRATORY MANIFESTATIONS							FINAL DIAGNOSIS OF PULMONARY DISEASE	ETOLOGY OF PLEURAL EFFUSION	OUTCOME AT END OF HOSPITAL STAY	DOD
23	HS	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	28-05-2019
24	AK		PRESENT	PRESENT					PNEUMONIA WITH LEFT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	20-05-2019
25	DD	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	06-05-2019
26	CR		PRESENT	PRESENT					PNEUMONIA WITH PLEURAL EFFUSION	SYNPNEUMONIC	EXPIRED	31-05-2019
27	BC	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	02-06-2019
28	GS	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	04-06-2019
29	AS	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	03-06-2019
30	NS	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	01-06-2019
	RM	PRESENT							PULMONARY EDEMA		DAMA	07-06-2020
32	SB		PRESENT	PRESENT					PNEUMONIA WITH PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	28-06-2019
33	OP	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	03-06-2019
34	CK	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	27-06-2019
35	AW	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	07-07-2019
36	KS	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	25-07-2019
37	RC	PRESENT	PRESENT	PRESENT			PRESENT		PNEUMONIA WITH PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DAMA	03-08-2019
38	PK	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DAMA	28-07-2019
39	JA		PRESENT	PRESENT					LEFT PNEUMONIA WITH LEFT PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	30-07-2019
40	JK		PRESENT	PRESENT					LEFT PNEUMONIA WITH LEFT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	10-08-2019
41	HR	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	EXPIRED	06-08-2019
42	SK	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DAMA	20-08-2019
43	SD	PRESENT							PULMONARY EDEMA		DISCHARGED	26-08-2019
44	NPS	PRESENT	PRESENT						PULOMARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	17-08-2019
45	JB	PRESENT	PRESENT	PRESENT					PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DAMA	22-08-2019
46	UK	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DAMA	13-08-2019

SR NO.	NAME	AGE(in years)	SEX	MRD number	DATE OF ADMISSION	ETIOLOGY OF CKD	DURATION OF CKD	GFR of patient(ml/min/1.72m2)	STAGE OF CKD	ON MAINTENANCE HAEMODIALYSIS	DURATION OF DIALYSIS	MODE OF DIALYSIS	FREQUENCY OF DIALYSIS ADVISED	COMPLIANCE OF DIALYSIS	ACTUAL FRQUENCY OF DIALYSIS	INTRADIALYTIC COMPLICATIONS	RESPIRATORY COMPLAINTS									PAST MEDICAL HISTORY			
47	KKS	65	MALE	781116	03-08-2019	1	6 MONTHS	15	5	NO							1		3	4						1	2		
48	SK	55	FEMALE	653556	06-08-2019	2	8 MONTHS	14	5	NO									3	4		6			DROWSINESS X 5 DAYS		2		4
49	SK	65	FEMALE	787027	13-08-2019	1	1 YEAR	14	5	NO							1		3				7			1	2		
50	MK	60	FEMALE	780420	03-08-2019	1	9 MONTHS	35	3b	NO							1		3	4		6				1	2		
51	SC	64	FEMALE	162101	06-08-2019	1	9 YEARS	24	4	NO								2	3	4			7		WEIGHT LOSS X 1 MONTH	1	2		4
52	SS	42	MALE	787665	14-08-2019	3	5 YEARS	5	5D	YES	5 YEARS	HAEMODIALYSIS	TWICE A WEEK	YES			1						7						
53	MK	78	FEMALE	789302	16-08-2019	1	6 MONTHS	19	4	NO							1						7			1			
54	BS	50	MALE	788125	14-08-2019	1	3 MONTHS	13	5	NO							1						7			1	2		
55	HS	24	MALE	711200	03-08-2019	4	5 MONTHS	13	5D	YES	1 MONTH	HAEMODIALYSIS	TWICE A WEEK	NO	ONCE A WEEK	YES	1						7						
56	CPS	79	MALE	348667	15-08-2019	1	10 MONTHS	5	5D	YES	10 MONTHS	HAEMODIALYSIS	ONCE A WEEK	YES		NO		2	3	4		6				1			
57	SG	69	FEMALE	782651	06-08-2019	1	7 MONTHS	13	5	NO							1						7		NAUSEA X 7 DAYS	1	2	3	
58	RL	70	MALE	786237	12-08-2019	1	13 MONTHS	11	5	NO							1						7			1			4
59	S	54	FEMALE	437671	24-06-2019	1	6 MONTHS	6	5D	YES	2 MONTHS	HAEMODIALYSIS	TWICE A WEEK	YES			1						7			1			4
60	KS	53	MALE	782645	06-08-2019	1	9 MONTHS	17	4	NO							1		3	4		6				1			
61	HK	45	FEMALE	779924	02-08-2019	6	3 YEARS	17	4	NO							1						7						
62	RL	54	MALE	768128	03-08-2019	1	2 YEARS	48	3a	NO									3	4		6				1	2		
63	SC	74	MALE	786250	12-08-2019	1	9 YEARS	36	3b	NO							1		3	4						1	2		4
64	SR	45	MALE	776804	29-07-2019	1	1 YEAR	4	5D	YES	3 MONTHS	HAEMODIALYSIS	TWICE A WEEK	YES	THRICE A WEEK	YES			3	4		6	7			1	2		
65	NA	62	FEMALE	775824	27-07-2019	1	2 YEARS	22	4	NO							1						7			1			
66	RR	62	FEMALE	709372	12-07-2019	1	14 MONTHS	37	3b	NO							1					6	7			1	2		4
67	KD	60	FEMALE	776757	28-07-2019	1	9 MONTHS	20	4	NO							1						7			1	2		
68	SK	57	FEMALE	776523	27-07-2019	1	3 YEARS	41	3b	NO							1		3							1	2	3	
69	PR	63	MALE	790668	17-08-2019	1	2 YEARS	25	4	NO							1		3	4		6				1			
70	KK	65	MALE	779767	21-08-2019	1	6 YEARS	45	3a	NO								2				6				1			
71	KK	53	FEMALE	797536	28-08-2019	1	3 MONTHS	14	5	NO							1		3	4		6				1			

SR NO.	NAME			PERSONAL HISTORY			VITALS				GENERAL PHYSICAL EXAMINATION							SYSTEMIC EXAMINATION			RESPIRATORY EXAMINATION					DIAGNOSIS ON BASIS OF RESPIRATORY EXAMINATION	ANAEMIA	GRADE OF ANAEMIA	INVESTIGATIONS				
47	KKS	5		1-30 PACK YEARS			83	24	110/70	99	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	RIGHT MZ BRONCHIAL BREATHING	RIGHT SIDE CREPTS	DECREASED B/L LZ	RIGHT MZ CONSOLIDATION WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.7	25.4	211	65	185
48	SK						92	20	140/90	101	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT MZ	NORMAL	RIGHT MZ BRONCHIAL BREATHING	B/L CREPTS	INCREASED RIGHT MZ	RIGHT MZ CONSOLIDATION WITH PULMONARY EDEMA	PRESENT	MODERATE	7.2	12.6	150	18	112
49	SK						90	20	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	ABSENT		12.7	7.3	134	99	128
50	MK						108	26	120/70	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT MZ	NORMAL	RIGHT MZ BRONCHIAL BREATHING	RIGHT CREPTS	INCREASED RIGHT MZ	RIGHT MZ CONSOLIDATION WITH RIGHT PLEURAL	PRESENT	MODERATE	8.4	11.3	140		76
51	SC						98	22	110/70	99	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT UZ	DECREASED RIGHT UZ	RIGHT UZ BRONCHIAL	RIGHT CREPTS	INCREASED RIGHT UZ	RIGHT UZ CONSOLIDATION	ABSENT		12.2	32.8	110	101	342
52	SS						88	20	110/70	98	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MILD	11.4	10.8	150	24	183
53	MK						121	20	120/70	98	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	ABSENT		12.5	25.4	190	120	219
54	BS						92	20	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	7.8	5.1	132	70	253
55	HS						90	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	6.5	15.7	247		210
56	CPS			1			90	24	110/70	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT SIDE	DECREASED LEFT LZ	NVBS		DECREASED LEFT SIDE	LEFT PLEURAL EFFUSION	PRESENT	MODERATE	8.4	14.3	264	120	106
57	SG						82	20	120/70	98	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.6	17.4	276		176
58	RL						89	20	140/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	NVBS	B/L CREPTS	DECREASED LEFT LZ	PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	PRESENT	SEVERE	7.7	12.4	152		160
59	S						82	18	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MILD	11.2	11	254		34
60	KS						86	20	110/70	100	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT MZ AND LZ	DECREASED RIGHT LZ	RIGHT MZ BRONCHIAL BREATHING	LEFT SIDE CREPTS	DECREASED RIGHT LZ	RIGHT MZ CONSOLIDATION WITH RIGHT PLEURAL EFFUSION	PRESENT	MODERATE	9.7	21.8	63	12	130
61	HK						88	18	130/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	6.8	9.4	181	36	224
62	RL						120	22	150/90	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	RIGHT MZ BRONCHIAL BREATHING	RIGHT SIDE CREPTS	DECREASED RIGHT LZ	RIGHT MZ CONSOLIDATION WITH RIGHT PLEURAL	PRESENT	SEVERE	7.4	11.7	426	120	241
63	SC	5		1			88	24	110/70	99	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	LEFT UZ BRONCHIAL BREATHING	B/L RHONCHI, B/L CREPTS	INCREASED LEFT UZ	LEFT UZ CONSOLIDATION	PRESENT	MILD	11	18.7	281	52	230
64	SR						110	20	110/70	101	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	NORMAL	LEFT LZ BRONCHIAL	B/L CREPTS	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION	PRESENT	SEVERE	5.2	14.6	100	16	159
65	NA						88	18	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.1	12.3	458		61
66	RR						80	22	130/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	ABSENT		12.9	9.2	140	19	56
67	KD						89	24	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	7.4	4.3	120		73
68	SK						90	20	140/90	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9	17.1	259		22
69	PR	5		1			102	ON MV	130/70	99	ABSENT		PRESENT	ABSENT				ABNORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	RIGHT MZ BRONCHIAL BREATHING	B/L RHONCHI, B/L CREPTS	DECREASED RIGHT LZ	RIGHT MZ CONSOLIDATION WITH RIGHT PLEURAL EFFUSION	ABSENT		13.4	14.8	203	42	128
70	KK						90	20	110/70	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	NVBS		DECREASED LEFT LZ	LEFT PLEURAL EFFUSION	PRESENT	MODERATE	8.9	5.3	280	95	101
71	KK	5					89	26	120/70	101	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	DECREASED RIGHT MZ	NVBS	RIGHT MZ CREPTS	NORMAL	RIGHT MZ CONSOLIDATION	PRESENT	SEVERE	7.1	22.7	307	62	124

SR NO.	NAME						URINE ANALYSIS			CHEST XRAY FINDINGS										DIAGNOSIS ON BASIS OF RADIOLOGICAL FINDINGS	PLEURAL EFFUSION		SITE OF PNEUMONIA	SPUTUM ANALYSIS			
47	KKS	4.05	127/5.5/97		811/575	3	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT	PRESENT						RIGHT MZ PNEUMONIE WITH B/L PLEURAL EFFUSION	MILD	BILATERAL	B/L BRONCHOPNEUMONIA	3	4		
48	SK	4.62	136/4.6/103		106/18	2.95	3+	ABSENT	NORMAL	PRESENT	PRESENT	PRESENT	PRESENT							RIGHT MZ PNEUMONIE WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MODERATE	BILATERAL	RIGHT MIDDLE ZONE	1	3		
49	SK	4.28	139/5.2/110	8.3/6.1	32/16	3.2	3+	ABSENT	PUS CELLS + [illegible]	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
50	MK	1.56	123/3.6/90		88/69	2.05	1+	ABSENT	RBC'S	ABSENT	PRESENT	ABSENT	PRESENT							RIGHT MZ PNEUMONIE WITH RIGHT PLEURAL EFFUSION	MILD	RIGHT SIDE	RIGHT BRONCHOPNEUMONIA	1	1		
51	SC	6.51	136/5.1/101	9/8.5	13/16	2.9	1+	ABSENT	PUS CELLS + RBC'S	PRESENT	ABSENT	ABSENT	ABSENT						PRESENT	RIGHT UZ CONSOLIDATION						PRESENT	
52	SS	11.32	139/5.58/106	8.8/11.8	30/13	3.4				ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
53	MK	5.78	128/6.2/98		21/15	2.5	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
54	BS	17.16	137/3.6/93	7.4/15.6	15/17	3.9	2+	ABSENT	NORMAL	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
55	HS	9.04	135/4.64/111	8.3/6.1	17/22	3	2+	ABSENT	PUS CELLS + [illegible]	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
56	CPS	6.35	137/4.2/104	7.9/6.8	29/51	2.96				ABSENT	PRESENT	ABSENT	ABSENT			PRESENT				LEFT PLEURAL EFFUSION	MODERATE	LEFT SIDE					
57	SG	8.32	131/6.2/110	8/6.8	14/17	2.8	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
58	RL	5.92	124/3.19/81	7.1/5.4	372/376	2.4	2+	ABSENT	PUS CELLS + RBC'S	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	MODERATE	BILATERAL					
59	S	3.38	136/4.32/105				2+	ABSENT	NORMAL	PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
60	KS	5.88	131/3/95	8.8/6.2	28/17	2.73	1+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	PRESENT							RIGHT MZ PNEUMONIE WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MODERATE	BILATERAL	RIGHT MIDDLE ZONE	1	5		
61	HK	13.7	139/4.3/112	8.3/11.8	13/14	3.9	1+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
62	RL	8.2	122/5.5/87	9.3/6.7	38/36	3.2	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	ABSENT	PRESENT							RIGHT MZ PNEUMONIE WITH RIGHT PLEURAL EFFUSION	MILD	RIGHT SIDE	RIGHT MIDDLE ZONE	1	5		
63	SC	1.99	134/4/102	9.2/3.23	73/25	3.4	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	ABSENT	ABSENT	PRESENT	PRESENT						LEFT UZ PNEUMONIA			LEFT UPPER ZONE	1,2	5		
64	SR	7.18	139/4.2/115		29/27	2.53	3+	ABSENT	NORMAL	ABSENT	ABSENT	ABSENT	PRESENT							LEFT LZ PNEUMONIA			LEFT LOWER ZONE	1,3	1		
65	NA	3.49	135/3.2/102	7.3/3.5	14/13	1.9	2+	ABSENT	PUS CELLS + RBC'S	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
66	RR	1.69	129/4/101	8.6/2.7	24/15	3.4	1+	ABSENT	NORMAL	PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
67	KD	4.87	127/4.3/101	7.8/5.22	26/17	2.77	3+	PRESENT	NORMAL	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
68	SK	1.72	129/5.1/104	7.7/1.6	23/28	3	2+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	MILD	LEFT SIDE					
69	PR	3.67	146/4.2/100	8.7/6.5	254/495	3.5	1+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT	PRESENT						RIGHT MZ CONSOLIDATION WITH RIGHT PLEURAL EFFUSION	MODERATE	RIGHT SIDE	RIGHT BRONCHOPNEUMONIA	1	1		
70	KK	2.42	131/6.1/105	8.5/2.9	28/13	2.5	2+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	ABSENT							LEFT PLEURAL EFFUSION	MODERATE	LEFT SIDE					
71	KK	6.24	128/4.6/75	6.2/9.1	27/14	2.29	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	PRESENT							RIGHT MZ CONSOLIDATION WITH B/L PLEURAL EFFUSION	MILD	BILATERAL	RIGHT MIDDLE ZONE	2	6		

SR NO.	NAME			PLEURAL FLUID ANALYSIS									CT CHEST FINDINGS				LEFT VENTRICULAR DYSFUNCTION	SYSTOLIC/DIASTOLIC DYSFUNCTION	LV SYSTOLIC DYSFUNCTION GRADE	LEFT VENTRICULAR EF	PULMONARY ARTERY HYPERTENSION ON ECHO	BNP LEVELS	OTHERS REPORTS	TYPE 2 RESPIRATORY FAILURE	INTUBATED DURING HOSPITAL STAY
47	KKS	1											B/L PLEURAL EFFUSION		RIGHT UPPER AND MIDDLE LOBE CONSOLIDATION	B/L INFLATED LUNGS WITH EMPHYSEMATOUS	LV DYSFUNCTION	SYSTOLIC	MODERATE	34	MODERATE	3100	PCO2-84	PRESENT	YES
48	SK																LV DYSFUNCTION	SYSTOLIC	SEVERE	26	ABSENT	836			
49	SK																LV DYSFUNCTION	SYSTOLIC	SEVERE	30	ABSENT	3240			
50	MK	1															NORMAL LV FUNCTION			60	MODERATE	948	GALACTOMANNAN +VE		YES
51	SC														RIGHT UPPER LOBE MASS/		NORMAL LV FUNCTION			56	MODERATE	994			
52	SS																LV DYSFUNCTION	SYSTOLIC	MODERATE	40	ABSENT	982			
53	MK																NORMAL LV FUNCTION			60	ABSENT	179			
54	BS																NORMAL LV FUNCTION			60	MODERATE	95			
55	HS																NORMAL LV FUNCTION			60	ABSENT	270			
56	CPS			TLC-5000,MNC-50%, NEU-50%	ALB-1.41, GLU-22, PRT-2.9	116	11529		NO GROWTH	NEG		EXUDATIVE	LEFT PLEURAL EFFUSION				LV DYSFUNCTION	DIASTOLIC		60	MODERATE	48	CRP-133		
57	SG																NORMAL LV FUNCTION			60	ABSENT	916			
58	RL																LV DYSFUNCTION	SYSTOLIC	SEVERE	28	MODERATE	5000			
59	S																LV DYSFUNCTION	SYSTOLIC	MODERATE	32	ABSENT				
60	KS																NORMAL LV FUNCTION			60	ABSENT	136			
61	HK																NORMAL LV			60	ABSENT	280			
62	RL	1															NORMAL LV FUNCTION			60	ABSENT	519			
63	SC	1															LV DYSFUNCTION	SYSTOLIC	SEVERE	20	ABSENT	118	PCO2-88	PRESENT	
64	SR	1															NORMAL LV FUNCTION			60	ABSENT	586			
65	NA																LV DYSFUNCTION	SYSTOLIC	MILD	45	ABSENT	578			
66	RR																LV DYSFUNCTION	SYSTOLIC	SEVERE	16	ABSENT	2469			
67	KD																LV DYSFUNCTION	SYSTOLIC	MODERATE	38	ABSENT	846			
68	SK																NORMAL LV FUNCTION			60	ABSENT	78			
69	PR			TLC-100, NEU-95%, LYMP-5%	ALB-2.8, GLU-72, PRT-4.4	5.12	417		NO GROWTH	NEG		EXUDATIVE					NORMAL LV FUNCTION			60	MODERATE	486	PC02-94	PRESENT	YES
70	KK			TLC-800, MNC-90%, NEU-10%	ALB-2.77, GLU-144, PRT-5.3	79	771		NO GROWTH	NEG		EXUDATIVE													
71	KK																NORMAL LV FUNCTION			60	ABSENT	98	PCO2-54		

SR NO.	NAME	RESPIRATORY MANIFESTATIONS							FINAL DIAGNOSIS OF PULMONARY DISEASE	ETOLOGY OF PLEURAL EFFUSION	OUTCOME AT END OF HOSPITAL STAY	DOD
47	KKS	PRESENT	PRESENT	PRESENT		PRESENT	PRESENT		COAD WITH ACUTE EXACERBATION WITH PNEUMONIA WITH PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	28-08-2019
48	SK	PRESENT	PRESENT	PRESENT					RIGHT PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DAMA	19-08-2019
49	SK	PRESENT							PULMONARY EDEMA		DAMA	21-08-2019
50	MK		PRESENT	PRESENT			PRESENT		RIGHT PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	22-08-2019
51	SC				PRESENT		PRESENT		RIGHT PULMONARY KOCHS		DISCHARGED	18-08-2019
52	SS	PRESENT							PULMONARY EDEMA		DISCHARGED	20-08-2019
53	MK	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	29-08-2019
54	BS	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	22-08-2019
55	HS	PRESENT							PULMONARY EDEMA		DAMA	10-08-2019
56	CPS		PRESENT				PRESENT		LEFT TUBERCULAR PLEURAL EFFUSION WITH SUPERADDED INFECTION	TUBERCULAR	DISCHARGED	27-08-2019
57	SG	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	12-08-2019
58	RL	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DAMA	19-08-2019
59	S	PRESENT							PULMONARY EDEMA		DISCHARGED	26-06-2019
60	KS	PRESENT	PRESENT	PRESENT					RIGHT PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DISCHARGED	01-08-2019
61	HK	PRESENT							PULMONARY EDEMA		DISCHARGED	09-08-2019
62	RL		PRESENT	PRESENT					RIGHT PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	09-08-2019
63	SC			PRESENT		PRESENT			COAD WITH ACUTE EXACERBATION WITH PNEUMONIA		DAMA	24-08-2019
64	SR			PRESENT					LEFT PNEUMONIA		DISCHARGED	19-08-2019
65	NA	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	06-08-2019
66	RR	PRESENT							PULMONARY EDEMA		DISCHARGED	06-08-2019
67	KD	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	09-08-2019
68	SK	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	05-08-2019
69	PR		PRESENT	PRESENT		PRESENT	PRESENT		COAD WITH AE WITH PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	24-08-2019
70	KK		PRESENT						LEFT TUBERCULAR PLEURAL EFFUSION	TUBERCULAR	DISCHARGED	27-08-2019
71	KK	PRESENT	PRESENT	PRESENT					RIGHT PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DAMA	07-09-2019

SR NO.	NAME	AGE(in years)	SEX	MRD number	DATE OF ADMISSION	ETIOLOGY OF CKD	DURATION OF CKD	GFR of patient(ml/min/1.72m2)	STAGE OF CKD	ON MAINTENANCE HAEMODIALYSIS	DURATION OF DIALYSIS	MODE OF DIALYSIS	FREQUENCY OF DIALYSIS ADVISED	COMPLIANCE OF DIALYSIS	ACTUAL FRQUENCY OF DIALYSIS	INTRADIALYTIC COMPLICATIONS	RESPIRATORY COMPLAINTS									PAST MEDICAL HISTORY			
72	GK	50	FEMALE	798520	29-08-2019	2	2 YEARS	25	4	NO							1		3	4		6					2		
73	PM	57	MALE	797813	28-08-2019	1	3 YEARS	36	3b	NO							1		3	4						1			
74	JS	56	MALE	790200	27-09-2019	1	7 MONTHS	48	3a	NO							1		3				7			1	2		
75	MS	22	MALE	818537	27-09-2019	5	1.5 YEARS	4	5D	YES	1.5 YEARS	HAEMODIALYSIS	TWICE A WEEK	YES		NO	1						7						
76	SS	82	MALE	828063	11-10-2019	1	3 YEARS	46	3a	NO							1						7			1			
77	CL	68	MALE	770214	08-10-2019	1	4 MONTHS	27	4	NO							1						7			1			4
78	DA	73	MALE	780371	09-10-2019	1	6 MONTHS	20	4	NO							1						7			1			
79	JK	62	FEMALE	805476	08-09-2019	1	1 YEAR	26	4	NO							1		3	4		6				1	2		
80	S	47	MALE	5200	01-10-2019	1	6 MONTHS	55	3a	NO							1		3	4						1	2		
81	MD	64	FEMALE	4602	15-10-2019	1	1 YEAR	34	3b	NO							1						7			1	2		4
82	SB	54	FEMALE	549515	04-10-2019	4	2 YEARS	6	5D	YES	2 YEARS	HAEMODIALYSIS	TWICE A WEEK	YES		YES	1		3	4			7						
83	KS	77	MALE	54024	18-09-2019	2	3 MONTHS	36	3b	NO							1		3	4							2		
84	KK	61	FEMALE	447734	19-09-2019	1	1 YEAR	4	5D	YES	3 MONTHS	HAEMODIALYSIS	TWICE A WEEK	NO	ONCE A WEEK	YES	1		3				7			1	2		
85	PCK	69	MALE	805551	10-09-2109	1	16 MONTHS	14	5	NO							1						7			1	2		
86	B	58	MALE	802201	03-09-2019	2	2 YEARS	18	4	NO								2	3	4		6					2		
87	SD	49	MALE	823791	05-10-2019	1	1 YEAR	4	5D	YES	4 MONTHS	HAEMODIALY	THRICE A	NO	ONCE A	NO	1						7			1	2		
88	KD	69	FEMALE	770767	23-09-2019	1	2 YEARS	13	5	NO							1									1	2		4
89	SK	70	FEMALE	802935	04-09-2019	1	10 MONTHS	15	4	NO							1						7			1	2		
90	PC	60	MALE	828997	14-10-2019	1	I YEAR	4	5D	YES	2 MONTHS	HAEMODIALYSIS	TWICE A WEEK	YES		NO	1						7			1	2		
91	PK	55	MALE	831310	17-10-2019	1	9 MONTHS	18	4	NO							1						7			1			
92	RC	73	MALE	794222	29-10-2019	4	17 YEARS	42	3b	NO							1		3			6							
93	GD	85	MALE	834823	23-10-2019	1	8 YEARS	23	4	NO							1		3	4						1	2		
94	KK	72	FEMALE	834422	22-10-2019	1	1 YEAR	4	5D	YES	3 MONTHS	HAEMODIALYSIS	ONCE A WEEK	YES			1	2								1	2		4
95	K	76	MALE	804576	06-10-2019	1	3 YEARS	14	5	NO							1						7			1			
96	AR	62	FEMALE	820303	29-09-2019	1	2.5 YEARS	16	4	NO							1		3	4		6				1	2		4
97	S	60	FEMALE	825818	08-10-2019	1	4 MONTHS	21	4	NO							1									1	2		
98	KS	74	MALE	833045	19-10-2019	6	12 YEARS	12	5	NO							1		3	4									

SR NO.	NAME			PERSONAL HISTORY			VITALS				GENERAL PHYSICAL EXAMINATION							SYSTEMIC EXAMINATION			RESPIRATORY EXAMINATION					DIAGNOSIS ON BASIS OF RESPIRATORY EXAMINATION	ANAEMIA	GRADE OF ANAEMIA	INVESTIGATIONS				
72	GK						124	ON MV	100/60	100	PRESENT		PRESENT	ABSENT				ABNORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	RIGHT MZ BRONCHIAL BREATHING	RIGHT MZ CREPTS	DECREASED RIGHT LZ	RIGHT MZ CONSOLIDATION WITH RIGHT PLEURAL EFFUSION	PRESENT	MODERATE	9.6	18.8	339	38	48
73	PM						90	20	120/70	99	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	DECREASED RIGHT UZ	RIGHT UZ BRONCHIAL	RIGHT SIDE CREPTS	INCREASED RIGHT UZ	RIGHT UZ CONSOLIDATION	PRESENT	MODERATE	9.2	25.2	194	35	150
74	JS						88	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	7.8	7.5	213		65
75	MS	9					92	18	130/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	7.1	11	255	20	128
76	SS						88	20	120/70	98	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	ABSENT		12.8	6.4	176		32
77	CL						89	22	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.4	10.4	184		236
78	DA						88	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	5.1	7.9	280	100	196
79	JK						89	ON MV	110/70	100	ABSENT		PRESENT	ABSENT				ABNORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	NORMAL	LEFT LZ BRONCHIAL BREATHING	LEFT SIDE CREPTS	DECREASED LEFT LZ	LEFT LZ CONSOLIDATION WITH LEFT PLEURAL EFFUSION	PRESENT	MILD	11	15.3	254	46	107
80	S	5		1	2		90	22	110/70	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	LEFT LZ BRONCHIAL	B/L RHONCHI	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION	ABSENT		19.6	27.7	179	75	76
81	MD						80	22	130/80	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.8	18.5	244	20	146
82	SB						89	22	110/70	100	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT MZ	NORMAL	RIGHT MZ BRONCHIAL	RIGHT SIDE CREPTS	INCREASED RIGHT MZ	RIGHT MZ CONSOLIDATION	PRESENT	MODERATE	8.6	12.9	168	120	112
83	KS	5		1			103	20	110/70	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L RHONCHI	NORMAL	COAD WITH ACUTE EXACERBATION	ABSENT		12.6	14.1	239	45	75
84	KK						88	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	7.9	11.1	266		129
85	PCK						80	20	140/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.2	9	129	78	259
86	B						98	20	120/70	99	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	RIGHT MZ BRONCHIAL BREATHING	RIGHT MZ CREPTS	DECREASED B/L LZ	RIGHT MZ CONSOLIDATION WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	6.9	8.8	120	2	131
87	SD						92	18	130/80	97	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.6	6.7	191	71	66
88	KD						89	20	130/80	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.1	6	128	102	195
89	SK						111	20	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.6	9.6	344		110
90	PC						98	20	130/80	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	7.8	12.1	190	120	350
91	PK						90	24	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	9.1	12.1	328	120	118
92	RC	5		1			89	22	120/70	99	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L RHONCHI	NORMAL	COAD WITH ACUTE EXACERBATION	PRESENT	MODERATE	9.6	16.4	199		213
93	GD						112	20	110/70	99	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT MZ, LZ	DECREASED RIGHT LZ	RIGHT MZ BRONCHIAL BREATHING	RIGHT SIDE CREPTS	DECREASED RIGHT LZ	RIGHT MZ CONSOLIDATION WITH RIGHT PLEURAL	ABSENT		12.6	17.4	237	92	106
94	KK						89	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	NVBS	RIGHT SIDE CREPTS	DECREASED LEFT LZ	PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	PRESENT	MODERATE	9.1	15.9	555		209
95	K						82	18	130/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.6	7.9	346		186
96	AR						92	22	110/70	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	5.7	33	215	62	197
97	S						78	20	140/90	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MILD	11.2	23.8	624	51	59
98	KS						98	22	130/70	99	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	DECREASED	NVBS	B/L CREPTS	INCREASED	B/L MZ CONSOLIDATION	ABSENT		12.8	38.7	100	27	264

SR NO.	NAME						URINE ANALYSIS			CHEST XRAY FINDINGS										DIAGNOSIS ON BASIS OF RADIOLOGICAL FINDINGS	PLEURAL EFFUSION		SITE OF PNEUMONIA	SPUTUM ANALYSIS			
72	GK	3.15	136/3.8/101	8.7/3.1	30/14	3	3+	ABSENT	PUS CELLS + RBC'S	PRESENT	PRESENT	ABSENT	PRESENT					PRESENT		RIGHT MZ CAVITATORY LESION WITH PLEURAL EFFUSION	MILD	RIGHT SIDE	RIGHT BRONCHOPNEUMONIA	3	3		
73	PM	3.4	136/4.8/105	7.6/8.3	16/15	2.7	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	ABSENT	ABSENT	PRESENT							RIGHT UZ PNEUMONIA			RIGHT LOWER ZONE	1	1		
74	JS	2.7	117/4.7/93	7.8/4.9	56/35	2.9	3+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
75	MS	8.11	139/5.8/96	9.1/7.6	18/18	3.1	3+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
76	SS	1.78	128/5.31/98	9.1/4.2	25/22	3.8	2+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
77	CL	5.76	126/4.8/107	7.8/7.7	26/17	2.4	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
78	DA	6.5	135/5.6/104	8.1/7.04	17/20	3.63	1+	ABSENT	NORMAL	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
79	JK	3.54	131/4.79/101	8.9/6.3	36/23	3.61	2+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT							LEFT LZ PNEUMONIA WITH LEFT PLEURAL EFFUSION	MODERATE	LEFT SIDE	LEFT LOWER ZONE	1,3	4		
80	S	1.45	132/5.3/105		24/23	2.84	2+	PRESENT	NORMAL	ABSENT	ABSENT	ABSENT	PRESENT	PRESENT						LEFT LZ PNEUMONIA			RIGHT LOWER ZONE	1,2,3	5		
81	MD	2.19	135/3.24/93	8.5/6.32	317/284	3.16	2+	PRESENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
82	SB	4.82	132/5.3/102	8.3/3.8	23/13	2.79	2+	PRESENT	PUS CELLS	ABSENT	ABSENT	ABSENT	PRESENT							RIGHT MZ PNEUMONIEA			RIGHT MIDDLE	1,3	5		
83	KS	1.79	126/4.85/98		16/13	2.97	1+	PRESENT	NORMAL	ABSENT	ABSENT	ABSENT	PRESENT	PRESENT						RIGHT MZ CONSOLIDATION			RIGHT LOWER ZONE	1,2	5		
84	KK	7.7	136/5/100				3+	ABSENT	PUS CELLS + RBC'S	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
85	PCK	8.1	132/4.5/100	5.7/7.5	13/15	3.3	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
86	B	4.86	132/2.95/96	8/6.5	27/24	3.32	1+	ABSENT	NORMAL	PRESENT	PRESENT	ABSENT	PRESENT							RIGHT MZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION	MODERATE	RIGHT SIDE	RIGHT MIDDLE ZONE	1,2	6		
87	SD	7.14	133/4.3/98	8.2/1.94	506/193	2.56	3+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMOINARY EDEMA							
88	KD	8.1	123/5.46/100	7.6/5.4	26/24	2.59	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
89	SK	2.21	141/5.23/106		13/18	2.29	1+	ABSENT	PUS CELLS + RBC'S	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
90	PC	8.52	141/4.4/97	6.8/9.9	34/14	2.31	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
91	PK	6.88	141/5.1/101	8.2/5.9	74/55	2.28	3+	PRESENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
92	RC	1.85	140/2.43/91	7.6/3.3	28/25	1.82	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	ABSENT	ABSENT	ABSENT	PRESENT						COAD							
93	GD	2.51	136/4.4/105		50/57	3	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	ABSENT	PRESENT							RIGHT MZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION	MILD	RIGHT SIDE	RIGHT MIDDLE ZONE	1	5		
94	KK	7.84	135/4.5/93			2.9	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
95	K	6.13	134/4./99		15/14	3.7	2+	ABSENT	PUS CELLS	ABSENT	ABSENT	PRESENT	ABSENT		PRESENT					PULMONARY EDEMA							
96	AR	5.98	130/5.2/103	8.5/11.6	65/21	2.59	2+	ABSENT	PUS CELLS	PRESENT	PRESENT	PRESENT	PRESENT						PRESENT	B/L PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MODERATE	BILATERAL	B/L BRONCHOPNEUMONIA	1,2	8		
97	S	2.43	121/5.5/87		21/13	4	3+	PRESENT	NORMAL	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
98	KS	13.3	119/6/87	9/4.9	54/41	3	2+	ABSENT	PUS CELLS	ABSENT	ABSENT	ABSENT	PRESENT							B/L PNEUMONIA			RIGHT	1,2	5		

SR NO.	NAME			PLEURAL FLUID ANALYSIS									CT CHEST FINDINGS				LEFT VENTRICULAR DYSFUNCTION	SYSTOLIC/DIASTOLIC DYSFUNCTION	LV SYSTOLIC DYSFUNCTION GRADE	LEFT VENTRICULAR EF	PULMONARY ARTERY HYPERTENSION ON ECHO	BNP LEVELS	OTHERS REPORTS	TYPE 2 RESPIRATORY FAILURE	INTUBATED DURING HOSPITAL STAY
72	GK																NORMAL LV FUNCTION			55	ABSENT	842			YES
73	PM														RIGHT UPPER LOBE AND B/L LOWER							81			
74	JS																NORMAL LV FUNCTION			60	ABSENT	557			
75	MS																LV DYSFUNCTION	SYSTOLIC	MILD	45	MILD	2350			
76	SS																LV DYSFUNCTION	SYSTOLIC	MILD	45	ABSENT	121			
77	CL																LV DYSFUNCTION	SYSTOLIC	MILD	45	ABSENT	187			
78	DA																LV DYSFUNCTION	SYSTOLIC	MODERATE	38	ABSENT	2890			
79	JK																					284			YES
80	S																NORMAL LV FUNCTION			60	ABSENT	84		PRESENT	
81	MD																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	>5000			
82	SB	1															NORMAL LV FUNCTION			60	ABSENT	524			
83	KS	2																				88		PRESENT	
84	KK																NORMAL LV FUNCTION			60	ABSENT				
85	PCK																NORMAL LV FUNCTION			60	ABSENT	124			
86	B			TLC-100, NEUT-90%, MNC-10%	ALB-2.48, GLU-98,PRT-3.1	20	397		NO GROWTH	NEG		EXUDATIVE					NORMAL LV FUNCTION			55	ABSENT				
87	SD																LV DYSFUNCTION	SYSTOLIC	MODERATE	38	ABSENT	846			
88	KD																LV DYSFUNCTION	SYSTOLIC	MILD	42	MODERATE	839			
89	SK																NORMAL LV FUNCTION			60	ABSENT	1390			
90	PC			TLC-300, MNC-95%, NEU-5%	ALB-1.25, GLU-169, PRT-2.6	9	128		NO GROWTH	NEG		TRANSUDATIVE					NORMAL LV FUNCTION			55	ABSENT	638			
91	PK																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	840			
92	RC																NORMAL LV FUNCTION			60	ABSENT	212	PCO2-58	PRESENT	
93	GD																					248			
94	KK			TLC-30, MNC-80%, NEUT-20%	ALB-1.63, GLU-255, PRT-3.1	24	186		NO GROWTH			TRANSUDATIVE					LV DYSFUNCTION	SYSTOLIC	MODERATE	36	MODERATE	1240			
95	K																LV DYSFUNCTION	DIASTOLIC		60	MODERATE	494			
96	AR	1															LV DYSFUNCTION	SYSTOLIC	SEVERE	28	ABSENT	1240	BETA (1-3) D GLUCAN +VE[119]		
97	S																NORMAL LV FUNCTION			60	ABSENT	894			
98	KS	1															NORMAL LV			60	ABSENT	1084	BETA (1-3) D		

SR NO.	NAME	RESPIRATORY MANIFESTATIONS							FINAL DIAGNOSIS OF PULMONARY DISEASE	ETOLOGY OF PLEURAL EFFUSION	OUTCOME AT END OF HOSPITAL STAY	DOD
72	GK		PRESENT	PRESENT					RIGHT PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	06-09-2019
73	PM			PRESENT					RIGHT PNEUMONIA		DISCHARGED	13-09-2019
74	JS	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	02-10-2019
75	MS	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	30-09-2019
76	SS	PRESENT							PULMONARY EDEMA		DISCHARGED	17-10-2019
77	CL	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DAMA	18-10-2019
78	DA	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	15-10-2019
79	JK		PRESENT	PRESENT					LEFT PNEUMONIA WITH LEFT PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	10-10-2019
80	S			PRESENT		PRESENT			COAD WITH AE WITH PNEUMONIA		DISCHARGED	16-10-2019
81	MD	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	28-10-2019
82	SB			PRESENT					RIGHT PNEUMONIA		DAMA	23-10-2019
83	KS			PRESENT		PRESENT			COAD WITH AE WITH RIGHT PNEUMONIA		DISCHARGED	23-09-2019
84	KK	PRESENT							PULMONARY EDEMA		DISCHARGED	28-09-2019
85	PCK	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	24-09-2019
86	B		PRESENT	PRESENT					RIGHT PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	14-09-2019
87	SD	PRESENT							PULMONARY EDEMA		DAMA	17-10-2019
88	KD	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	13-10-2019
89	SK	PRESENT							PULMONARY EDEMA		DISCHARGED	02-10-2019
90	PC	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	28-10-2019
91	PK	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	31-10-2019
92	RC					PRESENT			COAD WITH AE		DISCHARGED	01-11-2019
93	GD		PRESENT	PRESENT					RIGHT PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	03-11-2019
94	KK	PRESENT	PRESENT				PRESENT		PULMOMARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	02-11-2019
95	K	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	23-10-2019
96	AR	PRESENT	PRESENT	PRESENT					PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DISCHARGED	11-10-2019
97	S	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	11-10-2019
98	KS			PRESENT					PNEUMONIA		DAMA	05-11-2019

SR NO.	NAME	AGE(in years)	SEX	MRD number	DATE OF ADMISSION	ETIOLOGY OF CKD	DURATION OF CKD	GFR of patient(ml/min/1.72m2)	STAGE OF CKD	ON MAINTENANCE HAEMODIALYSIS	DURATION OF DIALYSIS	MODE OF DIALYSIS	FREQUENCY OF DIALYSIS ADVISED	COMPLIANCE OF DIALYSIS	ACTUAL FRQUENCY OF DIALYSIS	INTRADIALYTIC COMPLICATIONS	RESPIRATORY COMPLAINTS									PAST MEDICAL HISTORY			
99	GS	65	MALE	841120	02-11-2019	2	8 MONTHS	45	3a	NO								2	3	4		6					2		
100	MK	60	FEMALE	609787	17-10-2019	1	6 YEARS	14	5	NO							1		3				7			1			
101	GK	68	FEMALE	568224	08-10-2019	1	6 MONTHS	12	5	NO							1	2					7			1	2		4
102	M	30	MALE	828999	14-10-2019	4	1 YEAR	14	5	NO								2	3			6							
103	MF	59	MALE	52356	13-10-2019	1	1.5 YEARS	12	5	NO							1		3	4		6				1	2		4
104	SM	44	MALE	762690	16-10-2019	1	5 MONTHS	14	5D	YES	1 MONTH	HAEMODIALY	ONCE A	NO	THRICE A	NO	1						7			1	2		
105	A	45	FEMALE	836784	26-10-2019	2	6 MONTHS	34	3b	NO							1		3	4		6					2	3	
106	RB	62	MALE	838605	29-10-2019	1	2 YEARS	4	5D	YES	3 MONTHS	HAEMODIALY SIS	TWICE A WEEK	NO	ONCE A MONTH	NO	1						7			1			4
107	PC	60	MALE	828887	14-10-2019	1	8 MONTHS	35	3b	NO							1		3							1			
108	RK	50	MALE	809720	14-09-2019	1	2 MONTHS	19	4	NO							1		3	4		6				1			
109	RS	45	MALE	835651	24-10-2019	2	4 MONTHS	42	3b	NO							1		3	4							2		
110	JS	48	MALE	825702	18-11-2019	1	3 YEARS	4	5D	YES	4 MONTHS	HAEMODIALY SIS	TWICE A WEEK	NO	ONCE A WEEK	YES	1						7			1	2		
111	KS	54	MALE	843367	12-11-2019	1	9 MONTHS	23	4	NO							1		3	4		6				1	2		
112	BK	64	MALE	693104	18-11-2019	1	8 YEARS	21	4	NO							1									1	2		
113	GS	55	MALE	849474	14-11-2019	1	9 MONTHS	36	3b	NO							1		3	4		6				1	2		4
114	AS	51	MALE	853914	21-11-2019	2	2 YEARS	6	5D	YES	5 MONTHS	HAEMODIALY SIS	ONCE A WEEK	NO	THRICE A WEEK	NO	1		3	4		6	7				2		
115	N	45	FEMALE	43405	24-11-2019	3	3 YEARS	10	5D	YES	1 YEAR	HAEMODIALY	TWICE A	NO	ONCE A	NO	1												
116	PK	60	MALE	758460	26-11-2019	1	3 YEARS	13	5	NO							1						7			1	2		4
117	SK	52	MALE	693186	28-11-2019	1	2 YEARS	14	5D	YES	3 MONTHS	HAEMODIALY SIS	TWICE A WEEK	NO	ONCE A WEEK	YES	1		3				7			1	2		
118	RK	59	MALE	679460	09-11-2019	1	2 YEARS	8	5D	YES	4 MONTHS	HAEMODIALY SIS	ONCE A WEEK	YES		NO	1									1			
119	SK	48	FEMALE	850772	16-11-2019	1	5 YEARS	12	5	NO							1		3	4		6				1			
120	A	64	FEMALE	847679	19-11-2019	1	8 YEARS	22	4	NO							1						7			1	2		
121	PS	54	MALE	459650	18-11-2019	1	5 MONTHS	18	4	NO							1	2	3	4		6				1			
122	K	80	MALE	857421	28-11-2019	1	7 YEARS	13	5	NO							1						7			1	2		
123	NR	59	FEMALE	853861	21-11-2019	1	2 YEARS	17	4	NO							1						7			1			
124	HS	51	MALE	623683	12-11-2019	4	1 YEAR	40	3b	NO									3	4									

SR NO.	NAME			PERSONAL HISTORY			VITALS				GENERAL PHYSICAL EXAMINATION							SYSTEMIC EXAMINATION			RESPIRATORY EXAMINATION					DIAGNOSIS ON BASIS OF RESPIRATORY EXAMINATION	ANAEMIA	GRADE OF ANAEMIA	INVESTIGATIONS				
99	GS						112	24	120/80	101	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS		DECREASED B/L LZ	B/L PLEURAL EFFUSION	ABSENT		12.8	22.7	340	111	49
100	MK						98	22	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	7.1	7.4	140	19	275
101	GK						112	22	110/70	99	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS	B/L CREPTS	DECREASED RIGHT LZ	PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	PRESENT	MODERATE	9.9	9.4	466		88
102	M	FSGS					120	24	120/70	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	NVBS		DECREASED LEFT SIDE	LEFT PLEURAL EFFUSION	PRESENT	MODERATE	8.6	9.2	481	78	128
103	MF						113	20	110/70	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL RIGHT LZ	DECREASED RIGHT LZ	RIGHT MZ BRONCHIAL BREATHING	B/L CREPTS	DECREASED RIGHT LZ	RIGHT MZ CONSOLIDATION WITH RIGHT PLEURAL	PRESENT	MODERATE	9.6	19.3	234	89	164
104	SM						82	20	130/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	6.7	11.3	130	25	116
105	A						98	22	140/90	99	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	NORMAL	LEFT LZ BRONCHIAL BREATHING	B/L CREPTS	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION WITH PULMONARY EDEMA	ABSENT		12	17.6	293		168
106	RB						108	20	100/60	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9	15.4	306	120	84
107	PC						118	20	130/80	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	7.8	12.1	190	120	358
108	RK						89	20	110/72	99	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	NORMAL	LEFT MZ BRONCHIAL BREATHING	B/L CREPTS	INCREASED LEFT MZ	LEFT MZ CONSOLIDATION WITH PULMONARY EDEMA	ABSENT		13.4	16	140		79
109	RS	5		1			109	22	130/90	100	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	RIGHT MZ BRONCHIAL BREATHING	B/L RHONCHI, RIGHT LZ CREPTS	NORMAL	RIGHT MZ CONSOLIDATION	ABSENT		12.9	23.7	219	26	89
110	JS				2		94	20	130/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.2	13.8	409		238
111	KS	5					98	22	120/70	99	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT MZ	NORMAL	RIGHT MZ BRONCHIAL BREATHING	RIGHT SIDE CREPTS	INCREASED RIGHT MZ	RIGHT MZ CONSOLIDATION	PRESENT	MODERATE	9.2	15.9	328	103	334
112	BK						94	20	110/70	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.5	8	232	81	157
113	GS						128	22	110/70	100.4	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	NORMAL	RIGHT LZ BRONCHIAL BREATHING	RUGHT SIDE CREPTS	INCREASED RIGHT LZ	RIGHT LZ CONSOLIDATION	PRESENT	MODERATE	9.5	26.8	130	72	177
114	AS						89	ON MV	100/60	99	PRESENT			PRESENT				ABNORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	NVBS		DECREASED LEFT LZ	LEFT PLEURAL EFFUSION	PRESENT	MODERATE	8.2	16.5	152	42	435
115	N						88	20	110/70	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MILD	11.1	5.8	89	20	157
116	PK						102	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9	7.4	85	76	310
117	SK						92	22	140/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	ABSENT		12.6	26.6	231		230
118	RK						89	20	110/70	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.1	23.8	283		262
119	SK						121	22	100/70	99	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS	RIGHT LZ CREPTS	INCREASED RIGHT LZ	RIGHT LZ CONSOLIDATION	PRESENT	MILD	11	5.8	60		100
120	A						89	18	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.3	6.7	131		97
121	PS						112	22	110/70	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS		DECREASED RIGHT LZ	RIGHT PLEURAL EFFUSION	PRESENT	SEVERE	7.7	14.6	300		191
122	K						80	22	100/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	6.2	5.8	210		138
123	NR						88	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	6.8	8.4	248		128
124	HS						112	ON MV	110/60	99	ABSENT		PRESENT	ABSENT				ABNORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	NORMAL	RIGHT LZ BRONCHIAL BREATHING	B/L CREPTS	INCREASED RIGHT LZ	RIGHT LZ CONSOLIDATION WITH PULMONARY EDEMA	ABSENT		13.7	30.2	336	94	70

SR NO.	NAME						URINE ANALYSIS			CHEST XRAY FINDINGS										DIAGNOSIS ON BASIS OF RADIOLOGICAL FINDINGS	PLEURAL EFFUSION		SITE OF PNEUMONIA	SPUTUM ANALYSIS			
99	GS	1.67	134/5.3/103		26/36	3.16	1+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT			PRESENT				LEFT LZ PNEUMONIA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL	LEFT LOWER ZONE	1,2	5		
100	MK	8.47	131/4.63/108	7.7/3	14/32	3.54	1+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
101	GK	2.73	119/6.1/88		18/13	3.64	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	MODERATE	RIGHT SIDE					
102	M	7.51	136/5.21	10.6/3.8	28/17	3.2	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	ABSENT	PRESENT			PRESENT				LEFT LZ PNEUMONIA WITH LEFT PLEURAL EFFUSION	SEVERE	LEFT SIDE	LEFT LOWER ZONE	1,2	5		
103	MF	6.12	139/4.5/102	7.6/7.04	13/14	3.75	3+	PRESENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT							RIGHT MZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION	MODERATE	RIGHT SIDE	RIGHT LOWER ZONE	2	2		
104	SM	6.72	141/3/105	9.1/5.13	22/13	3.4	2+	ABSENT	PUS CELLS +	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
105	A	4.45	121/7/93	11/9.8	66/34	3.57	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	PRESENT							LEFT LZ PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MODERATE	BILATERAL	LEFT BRONCHOPNEUMONIA	3	4		
106	RB	6.6	140/4.1/105		680/115	2.25	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
107	PC	8.4	134/4.6/98		34/17	2.4	2+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
108	RK	3.65	135/3.9/105	7.7/8.4/1.2	23/15	4	2+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT							LEFT MZ CONSOLIDATION WITH LEFT PLEURAL EFFUSION	MILD	LEFT SIDE		1	5		
109	RS	2.43	141/4/99	7.2/4.3	45/21	4	3+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT	PRESENT						RIGHT MZ PNEUMONIA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL	B/L BRONCHOPNEUMONIA	1	3		
110	JS	13.9	123/6.5/89		13/14	2.5	2+	PRESENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
111	KS	12.8	121/5.56/87	7.3/12.2	27/14	3	2+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT							RIGHT MZ CONSOLIDATION WITH RIGHT PLEURAL EFFUSION	MILD	RIGHT SIDE	RIGHT BRONCHOPNEUMONIA	1	5		
112	BK	7.19	146/3.65/101	7/5.5	24/13	3.22	3+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
113	GS	3.95	133/4.6/96		372/138	3.03	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	ABSENT	PRESENT	PRESENT							RIGHT LZ PNEUMONIA WITH PULMONARY EDEMA			RIGHT LOWER ZONE	1	5		
114	AS	19.54	132/6.2/95	7.1/11.6	25/177	3.21	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	ABSENT	ABSENT							LEFT LZ PNEUMONIA WITH LEFT PLEURAL EFFUSION	MODERATE	LEFT SIDE	LEFT LOWER ZONE	1	1		
115	N	5.93	144/5.84/104	9.2/7.5	40/29	3				ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
116	PK	11.87	138/6.4/99	8.9/9.4	30/20	3.76	3+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	MILD	RIGHT SIDE					
117	SK	12.61	142/4.8/99	8.8/7.9	13/17	2.33				ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
118	RK	11.1	131/7.4/90	9/9.8	248/79	3	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
119	SK	5.92	141/5.3/106		256/125	2.81	2+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT							RIGHT LZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION	MILD	BILATERAL	RIGHT MIDDLE ZONE	1,2	5		
120	A	2.95	134/3.3/99	7.8/2.7	126/58	3.11	2+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
121	PS	7.3	143/3.94/102	5.7/9.4		3.43	2+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	ABSENT							RIGHT LZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION	MODERATE	LEFT SIDE	RIGHT LOWER ZONE	1	1		
122	K	8.55	137/5.3/109	6.5/5	17/13	2.9	3+	ABSENT	NORMAL	PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
123	NR	4.8	128/4.3/89		84/32	3.4	2+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	MILD	LEFT SIDE					
124	HS	2.9	136/5.9/106	8.7/6.44	25/13	3.18	3+	PRESENT	NORMAL	PRESENT	PRESENT	PRESENT	PRESENT							RIGHT LZ PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MILD	BILATERAL	B/L BRONCHOPNEUMONIA	1,3	3		

SR NO.	NAME			PLEURAL FLUID ANALYSIS									CT CHEST FINDINGS				LEFT VENTRICULAR DYSFUNCTION	SYSTOLIC/DIASTOLIC DYSFUNCTION	LV SYSTOLIC DYSFUNCTION GRADE	LEFT VENTRICULAR EF	PULMONARY ARTERY HYPERTENSION ON ECHO	BNP LEVELS	OTHERS REPORTS	TYPE 2 RESPIRATORY FAILURE	INTUBATED DURING HOSPITAL STAY
99	GS			TLC-8000, MNC-20%, NEUT-80%	ALB-2.27, GLU-2, PRT-5.2	202	7906		STAPH AUREUS			EXUDATIVE	LEFT SIDE MODERATE PLEURAL EFFUSION	LEFT LZ CONSOLIDATION			NORMAL LV FUNCTION			60	ABSENT	212			
100	MK																NORMAL LV FUNCTION			60	ABSENT	242			
101	GK			TLC-800, MNV-90%, NEUT-10%	ALB-2.15, GLU-289, PRT-4.2	29	107		NO GROWTH			EXUDATIVE					NORMAL LV FUNCTION			60	ABSENT	238			
102	M			TLC-9000, NEU-90%, MNC-10%	ALB-2.74, GLU-10, PRT-5.2	322	19174	GRAM +VE COCCI	MRSA			EXUDATIVE													
103	MF			TLC-100, MNC-95%, NEUT-5%	ALB-1.51, GLU-236, PRT-2.6	25	129		NO GROWTH			EXUDATIVE					LV DYSFUNCTION	SYSTOLIC	SEVERE	20	SEVERE	968	SERUM LDH-204		
104	SM																NORMAL LV			60	ABSENT	2590			
105	A																NORMAL LV FUNCTION			60	ABSENT	720			YES
106	RB																LV DYSFUNCTION	SYSTOLIC	MODERATE	32	ABSENT	2560			
107	PC																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	232			
108	RK																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	236			
109	RS																					55	PCO2-58	PRESENT	YES
110	JS																LV DYSFUNCTION	SYSTOLIC	SEVERE	20	MODERATE	486			
111	KS	2															NORMAL LV FUNCTION			60	ABSENT	728	PCO2-54		
112	BK																NORMAL LV			60	ABSENT	323			
113	GS																LV DYSFUNCTION	SYSTOLIC	MILD	45	MODERATE	1000			
114	AS			TLC-400, NEUT-15%, MNC-85%	ALB-1.28, GLU-123, PRT-2.9	32	824		NO GROWTH			EXUDATIVE	MODERATE LEFT PLEURAL EFFUSION WITH BASAL		LEFT LOWER AND RIGHT UL CONSOLIDATION		NORMAL LV FUNCTION			60	ABSENT	896			YES
115	N																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	238			
116	PK																LV DYSFUNCTION	SYSTOLIC	SEVERE	28	MODERATE	2760			
117	SK																NORMAL LV FUNCTION			60	ABSENT	486			
118	RK																LV DYSFUNCTION	SYSTOLIC	SEVERE	25	ABSENT	2400			
119	SK	1															NORMAL LV FUNCTION			60	ABSENT	406	BETA(1-3)D GLUCAN+VE[523]		
120	A																NORMAL LV			60	ABSENT	1120			
121	PS			TLC-800- NEUT-90%, MNC-10%	ALB-2.62, GLU-24, PRT-4.2	45	712	GRAM +VE COCCI	NO GROWTH			EXUDATIVE	RIGHT SIDE PLEURAL EFFUSION		RIGHT SIDE CONSOLIDATION		LV DYSFUNCTION	SYSTOLIC	MODERATE	32	ABSENT				
122	K																LV DYSFUNCTION	DIASTOLIC		60	MODERATE	487			
123	NR																NORMAL LV FUNCTION			60	ABSENT	846			
124	HS																LV DYSFUNCTION	SYSTOLIC	SEVERE	28	ABSENT	2498			YES

SR NO.	NAME	RESPIRATORY MANIFESTATIONS							FINAL DIAGNOSIS OF PULMONARY DISEASE	ETOLOGY OF PLEURAL EFFUSION	OUTCOME AT END OF HOSPITAL STAY	DOD
99	GS		PRESENT	PRESENT					PNEUMONIA WITH LEFT SIDE EMPYEMA	EMPYEMA	DISCHARGED	15-11-2019
100	MK	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	24-10-2019
101	GK	PRESENT	PRESENT						PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	URAEMIC	DISCHARGED	30-10-2019
102	M		PRESENT	PRESENT					LEFT LZ CONSOLIDATION WITH LEFT SIDE EMPYEMA	EMPYEMA	DISCHARGED	21-10-2019
103	MF		PRESENT	PRESENT			PRESENT		RIGHT PNEUMOIAE WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	21-10-2019
104	SM	PRESENT							PULMONARY EDEMA		DISCHARGED	22-10-2019
105	A	PRESENT	PRESENT	PRESENT					LEFT PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DISCHARGED	09-11-2019
106	RB	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	10-11-2019
107	PC	PRESENT							PULMONARY EDEMA		DISCHARGED	21-10-2019
108	RK		PRESENT	PRESENT					LEFT PNEUMONIA WITH LEFT PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	23-09-2019
109	RS		PRESENT	PRESENT		PRESENT			COAD WITH AE WITH PNEUMONIA WITH PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	11-11-2019
110	JS	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	21-11-2019
111	KS		PRESENT	PRESENT					RIGHT PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	29-11-2019
112	BK	PRESENT							PULMONARY EDEMA		DAMA	26-11-2019
113	GS	PRESENT		PRESENT			PRESENT		RIGHT PNEUMONIA WITH PULMONARY EDEMA		DISCHARGED	04-12-2019
114	AS		PRESENT	PRESENT					LEFT PNEUMONIA WITH LEFT PLEURAL EFFUSION	SYNPNEUMONIC	EXPIRED	01-12-2019
115	N	PRESENT							PULMONARY EDEMA		DAMA	30-11-2019
116	PK	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DAMA	05-12-2019
117	SK	PRESENT							PULMONARY EDEMA		DISCHARGED	30-11-2019
118	RK	PRESENT							PULMONARY EDEMA		DISCHARGED	23-11-2019
119	SK		PRESENT	PRESENT					RIGHT PNEUMONIA WTH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	07-12-2019
120	A	PRESENT							PULMONARY EDEMA		DISCHARGED	23-11-2019
121	PS		PRESENT	PRESENT					RIGHT PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	30-11-2019
122	K	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	03-12-2019
123	NR	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	25-11-2019
124	HS	PRESENT	PRESENT	PRESENT					RIGHT PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DAMA	11-12-2019

SR NO.	NAME	AGE(in years)	SEX	MRD number	DATE OF ADMISSION	ETIOLOGY OF CKD	DURATION OF CKD	GFR of patient(ml/min/1.72m2)	STAGE OF CKD	ON MAINTENANCE HAEMODIALYSIS	DURATION OF DIALYSIS	MODE OF DIALYSIS	FREQUENCY OF DIALYSIS ADVISED	COMPLIANCE OF DIALYSIS	ACTUAL FRQUENCY OF DIALYSIS	INTRADIALYTIC COMPLICATIONS	RESPIRATORY COMPLAINTS									PAST MEDICAL HISTORY			
125	KS	74	MALE	867003	14-12-2019	1	6 YEARS	21	4	NO							1		3	4		6				1			
126	V	45	FEMALE	112607	16-12-2019	1	6 MONTHS	32	3b	NO							1						7			1			
127	AK	55	MALE	856121	25-11-2019	1	3 MONTHS	36	3b	NO							1						7			1	2		
128	PK	58	MALE	808681	18-12-2019	1	2 YEARS	6	5D	YES	6 MONTHS	HAEMODIALY	TWICE A	NO	ONCE A	YES	1		3							1	2		
129	RK	63	MALE	457635	10-12-2019	1	3 YEARS	4	5D	YES	7 MONTHS	HAEMODIALY	TWICE A	YES		NO	1		3	4						1	2		4
130	AK	52	MALE	865955	12-12-2019	1	4 MONTHS	30	3b	NO							1						7			1			
131	BS	79	MALE	701933	30-11-2019	1	1 YEAR	24	4	NO							1		3	4		6				1	2	3	
132	GS	69	MALE	752997	21-12-2019	2	3 YEARS	8	5D	YES	2 MONTHS	HAEMODIALY SIS	ONCE A WEEK	YES		NO	1	2									2		
133	JS	46	MALE	868766	19-12-2019	2	5 MONTHS	23	4	NO							1						7				2		
134	PK	52	MALE	865855	12-12-2019	1	8 MONTHS	16	4	NO							1						7			1			
135	JK	68	FEMALE	864163	09-12-2019	1	2 YEARS	25	4	NO							1						7			1	2	3	
136	RS	62	MALE	865559	11-12-2019	1	3 MONTHS	21	4	NO									3	4		6				1	2		
137	MS	72	MALE	865689	11-12-2019	1	3 YEARS	20	4	NO							1						7			1			
138	SK	67	FEMALE	867298	16-12-2019	1	2 YEARS	11	5	NO									3	4		6				1			4
139	AS	50	MALE	868523	17-12-2019	1	3 MONTHS	43	3b	NO							1						7			1	2		4
140	AK	56	MALE	865440	11-12-2019	2	2 YEARS	36	3b	NO							1						7				2	3	
141	KD	71	FEMALE	453379	16-12-2019	2	3 YEARS	15	4	NO							1		3			6					2		
142	MB	58	FEMALE	863600	08-12-2019	1	1 YEAR	27	4	NO							1		3	4		6				1	2	3	
143	MS	62	MALE	747079	03-01-2020	1	8 YEARS	21	4	NO							1		3				7			1	2		
144	MK	65	FEMALE	860669	03-01-2020	1	5 YEARS	11	5	NO							1								DECREASED URINE OUTPUT	1			
145	JS	52	MALE	813890	30-12-2019	1	8 MONTHS	6	5D	YES	4 MONTHS	HAEMODIALY SIS	TWICE A WEEK	YES		NO	1		3	4		6	7			1	2		
146	KS	60	MALE	641507	04-01-2020	1	10 YEARS	4	5D	YES	5 MONTHS	HAEMODIALY SIS	TWICE A WEEK	NO	ONCE A WEEK	YES		2				6			GENERALISED BODY	1	2		
147	RD	50	FEMALE	907825	28-02-2020	1	8 MONTHS	14	5	NO							1		3				7			1			
148	BL	57	MALE	343125	08-01-2020	1	7 MONTHS	22	4	NO							1						7			1	2		4
149	BK	63	FEMALE	797648	15-02-2020	1	8 MONTHS	12	5	NO							1						7			1	2		4
150	PA	72	MALE	894111	07-02-2020	1	3 YEARS	16	4	NO							1		3	4		6				1			
151	RM	53	FEMALE	532870	13-02-2020	1	4 YEARS	6	5D	YES	2 YEARS	HAEMODIALY SIS	TWICE A WEEK	NO	ONCE A WEEK	YES	1						7			1	2		
152	DS	50	MALE	890794	01-02-2020	1	5 MONTHS	17	4	NO							1						7			1			
153	ML	58	MALE	749388	04-02-2020	1	2 YEARS	10	5D	YES	1 MONTH	HAEMODIALY SIS	TWICE A WEEK	NO	ONCE A WEEK	NO	1						7			1	2		
154	MK	62	FEMALE	898368	13-02-2020	1	4 YEARS	14	5	NO							1								DECREASED URINE	1	2	3	4
155	OP	55	MALE	863581	08-02-2020	1	1 YEAR	21	4	NO							1						7			1	2		

SR NO.	NAME			PERSONAL HISTORY			VITALS				GENERAL PHYSICAL EXAMINATION							SYSTEMIC EXAMINATION			RESPIRATORY EXAMINATION					DIAGNOSIS ON BASIS OF RESPIRATORY EXAMINATION	ANAEMIA	GRADE OF ANAEMIA	INVESTIGATIONS				
125	KS						108	22	130/80	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT MZ	NORMAL	LEFT MZ BRONCHIAL BREATHING		INCREASED LEFT MZ	LEFT MZ CONSOLIDATION	ABSENT		14	15.5	326	95	264
126	V						92	20	130/80	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	6.2	12.2	185	125	178
127	AK						78	20	140/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS		DECREASED B/L LZ	B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.1	7.9	232	94	88
128	PK						99	20	150/90	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.8	9.9	220	104	168
129	RK	5		1-15 PACK			80	22	130/70	99.8	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L RHONCHI	NORMAL	COAD WITH AE	PRESENT	SEVERE	6.4	9.5	255		284
130	AK						89	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.3	7.2	306	35	195
131	BS	5		1-20 PACK YEARS			92	22	110/70	100	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	NORMAL	LEFT LZ BRONCHIAL BREATHING	B/L RHONCHI	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION	PRESENT	MODERATE	9.9	12.8	232	29	150
132	GS						104	22	100/70	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT SIDE	DECREASED LEFT SIDE	NVBS		DECREASED LEFT SIDE	LEFT PLEURAL EFFUSION	PRESENT	SEVERE	7.4	6.9	207		152
133	JS						99	22	150/90	99	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS		DECREASED B/L LZ	B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.4	11.9	140		204
134	PK						88	20	130/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL	PRESENT	MODERATE	8.3	7.2	306	35	195
135	JK						80	20	130/80	98	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	ABSENT		13	10.1	246		52
136	RS						98	20	120/80	99	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT MZ	NORMAL	RIGHT MZ BRONCHIAL BREATHING	B/L CREPTS	INCREASED RIGHT MZ	RIGHT MZ CONSOLIDATION WITH PULMONARY EDEMA	PRESENT	MODERATE	8.7	16	290	120	131
137	MS						92	22	130/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	6	25	243	123	129
138	SK						120	ON	100/60	99	PRESENT			ABSENT				ABNORMA	NORMAL	NORMAL	DULL NOTE	DECREASED	RIGHT MZ		INCREASED	B/L CONSOLIDATION	PRESENT	MODERATE	8.3	16.6	170	119	204
139	AS						89	22	100/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.7	6.2	225	98	138
140	AK						80	20	140/90	98	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	ABSENT		12.9	3	110	24	94
141	KD	5		1-10 PACK YEARS			112	20	140/90	98	ABSENT		PRESENT	ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L RHONCHI	NORMAL	COAD WITH AE	ABSENT		12.6	17.6	161		179
142	MB						121	22	110/70	100	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	LEFT LZ CREPTS	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION	PRESENT	MILD	11	8.7	140		248
143	MS						92	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.9	9.7	204		161
144	MK						90	20	140/90	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.4	14.1	167		302
145	JS						102	20	120/70	99	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	RIGHT LZ BRONCHIAL BREATHING	RIGHT SIDE CREPTS	INCREASED RIGHT LZ	RIGHT LZ CONSOLIDATION	PRESENT	SEVERE	6.8	21.8	120		261
146	KS						90	22	110/70	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT SIDE	DECREASED LEFT SIDE	NVBS		DECREASED LEFT SIDE	LEFT PLEURAL EFFUSION	PRESENT	SEVERE	7.4	7.8	392	110	265
147	RD						86	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	7.7	9.1	175	74	154
148	BL						90	20	120/80	98	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS		DECREASED RIGHT LZ	RIGHT PLEURAL EFFUSION	ABSENT		12.8	7.1	142		200
149	BK						80	18	140/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.7	20.8	250	120	181
150	PA						102	22	110/70	99	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT MZ	DECREASED LEFT MZ	NVBS	B/L CREPTS	INCREASED LEFT MZ	LEFT MZ CONSOLIDATION	PRESENT	SEVERE	7.9	12.9	292	120	176
151	RM						90	20	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.4	22.1	193	118	203
152	DS						80	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS	B/L CREPTS	DECREASED RIGHT LZ	PULMONARY EDEMA WIOTH RIGHT PLEURAL EFFUSION	PRESENT	MODERATE	8.3	4.8	140		148
153	ML						88	20	140/90	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	7.6	6.3	384	80	192
154	MK						90	20	130/80	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	7	7.3	166	120	229
155	OP						88	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.4	18.2	227	55	122

SR NO.	NAME						URINE ANALYSIS			CHEST XRAY FINDINGS										DIAGNOSIS ON BASIS OF RADIOLOGICAL FINDINGS	PLEURAL EFFUSION		SITE OF PNEUMONIA	SPUTUM ANALYSIS			
125	KS	5.03	142/4.96/103	6.9/10.2	46/39	2.65	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	ABSENT	PRESENT							LEFT MZ PNEUMONIA WITH LEFT PLEURAL EFFUSION	MILD	LEFT SIDE	LEFT MIDDLE ZONE	1	5		
126	V	9.81	137/3.75/109	5/5.3	15/17	3.18	2+	ABSENT	PUS CELLS	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
127	AK	2.49	130/4.4/94	7.3/4.81	27/19	2.87	3+	ABSENT	NORMAL	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
128	PK	7.7	140/4.8/103	7.3/4.6	15/15	2.93	3+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
129	RK	5.07	135/5.6/99	6.8/8.7		2.69				PRESENT	ABSENT	ABSENT	ABSENT	PRESENT						COAD WITH AE							
130	AK	9.63	138/6.7/102	7.2/11.2	20/23	3.7	3+	ABSENT	NORMAL	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
131	BS	5.66	134/5/101	8.9/4.7	29/19	3.78	2+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT	PRESENT						LEFT LZ PNEUMONIA WITH LEFT PLEURAL EFFUSION	MILD	LEFT SIDE	LEFT LOWER ZONE	2	5		
132	GS	8.46	127/5.59/93	8.1/7.3	39/35	3.51	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	ABSENT	ABSENT							LEFT PLEURAL EFFUSION	SEVERE	LEFT SIDE					
133	JS	9.74	132/3.7/97	8.2/8.4	29/31	3.18	2+	ABSENT	PUS CELLS	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
134	PK	9.63	138/6.7/102	7.2/11.2	20/21	3.78	3+	ABSENT	PUS CELLS	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
135	JK	3.16	135/3.79/100		39/49	3.83	1+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
136	RS	4.46	133/6.6/99		16/13	2.72	2+	PRESENT	NORMAL	PRESENT	PRESENT	PRESENT	PRESENT							RIGHT MZ PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MILD	BILATERAL	RIGHT MIDDLE ZONE	1,2	5		
137	MS	7.4	135/4.33/95	6.8/5	27/16	2.17	2+	ABSENT	PUS CELLS +	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
138	SK	5.25	147/5.39/103	7.8/7.6	20/14	3.72	2+	ABSENT	RBC'S	PRESENT	ABSENT	ABSENT	ABSENT						PRESENT	B/L INFILTERATES				1,2		PRESENT	
139	AS	1.9	138/4.12/99		13/15	3.2	2+	ABSENT	PUS CELLS	PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
140	AK	2.43	141/5.9/116		114/135	2.75	2+	ABSENT	NORMAL	PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
141	KD	4.92	138/5.83/109	8.4/6.5	20/14	3.87	2+	ABSENT	NORMAL	ABSENT	ABSENT	ABSENT	PRESENT	PRESENT						RIGHT LZ PNEUMONIA			RIGHT LOWER ZONE	1,2	5		
142	MB	7.39	140/4.2/99	7.6/7.8	22/16	3.36	3+	ABSENT	NORMAL	ABSENT	ABSENT	ABSENT	PRESENT							LEFT LZ PNEUMONIA			LEFT LOWER ZONE	1,2	5		
143	MS	5.45	140/4.13/106	7/5.89	18/19	2.72	3+	ABSENT	PUS CELLS	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
144	MK	8.6	135/6.2/105		45/78	3.86	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
145	JS	14.81	140/5.35/98	6.9/6.7	25/36	2.58	3+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	ABSENT	PRESENT							RIGHT LZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION	MILD	RIGHT SIDE	RIGHT LOWER ZONE	2	7		
146	KS	12.26	131/5.45/98	7.9/10.2	13/17	3.13	3+	PRESENT	NORMAL	ABSENT	PRESENT	ABSENT	ABSENT							LEFT PLEURAL EFFUSION	MODERATE	LEFT SIDE					
147	RD	12.54	135/4.51/102	4.2/7.9	20/14	2.1	3+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
148	BL	3.81	140/3.2/95	8/4.6	37/30	3.32	2+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	MODERATE	RIGHT SIDE					
149	BK	5.9	121/3.9/85	9.7/3.3	13/14	4	2+	ABSENT	NORMAL	PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
150	PA	7.52	131/3.7/88	8.8/6.7	96/13	3.12	2+	ABSENT	RBC'S	ABSENT	ABSENT	ABSENT	PRESENT							LEFT MZ PNEUMONIA			B/L BRONCHOPN	1,2	2		
151	RM	10.71	127/7.7/95	7.8/8.6	22/13	4.4				ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
152	DS	6.79	137/3.8/98	6.7/5.8	21/20	4.16	1+	ABSENT	RBC'S	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	MODERATE	BILATERAL					
153	ML	12.2	136/7.51/102		13/15	3.39				ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
154	MK	8.29	137/4.7/95	4.5/5.98	24/13	2.9	2+	PRESENT	PUS CELLS + RBC'S	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
155	OP	7.68	138/4.2/112	7/5.7	13/19	1.89	2+	ABSENT	PUS CELLS	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							

SR NO.	NAME			PLEURAL FLUID ANALYSIS									CT CHEST FINDINGS				LEFT VENTRICULAR DYSFUNCTION	SYSTOLIC/DIASTOLIC DYSFUNCTION	LV SYSTOLIC DYSFUNCTION GRADE	LEFT VENTRICULAR EF	PULMONARY ARTERY HYPERTENSION ON ECHO	BNP LEVELS	OTHERS REPORTS	TYPE 2 RESPIRATORY FAILURE	INTUBATED DURING HOSPITAL STAY
125	KS																					487			
126	V																NORMAL LV			60	ABSENT	798			
127	AK																LV DYSFUNCTION	SYSTOLIC	MILD	40	ABSENT	1120	USG CHEST-B/L PLEURAL EFFUSION		
128	PK																NORMAL LV			60	ABSENT	420			
129	RK																LV DYSFUNCTION	DIASTOLIC		55	ABSENT	846	PCO2-68	PRESENT	
130	AK																NORMAL LV FUNCTION			60	MILD	688			
131	BS																					248	PCO2-68	PRESENT	
132	GS			TLC-200, MNC-55%, NEUT-45%	ALB-2.2, GLU-107, PRT-3.9	19	163		NO GROWTH			EXUDATIVE					NORMAL LV FUNCTION			60	MODERATE	816	SERUM LDH-246		
133	JS																LV DYSFUNCTION	DIASTOLIC		60	MODERATE	28			
134	PK																NORMAL LV			60	ABSENT	687			
135	JK																NORMAL LV FUNCTION			60	ABSENT	200			
136	RS																LV DYSFUNCTION	SYSTOLIC	MODERATE	32	ABSENT	1126			
137	MS																NORMAL LV				ABSENT	546			
138	SK																LV DYSFUNCTION	SYSTOLIC	MODERATE	38	ABSENT	1298			YES
139	AS																LV DYSFUNCTION	SYSTOLIC	MODERATE	36	MODERATE	403			
140	AK																NORMAL LV			60	ABSENT	406			
141	KD																NORMAL LV FUNCTION			60	ABSENT	324	PCO2-52	PRESENT	
142	MB																LV DYSFUNCTION	SYSTOLIC	SEVERE	25	ABSENT	84			
143	MS																LV DYSFUNCTION	SYSTOLIC	MODERATE	32	ABSENT	846	USG CHEST-B/L PLEURAL EFFUSION		
144	MK																NORMAL LV FUNCTION			60	MODERATE	1680	USG CHEST-B/L PLEURAL EFFUSION		
145	JS																LV DYSFUNCTION	SYSTOLIC	MODERATE	35	ABSENT	848	PCT-9.32		
146	KS			TLC-200- MNC-80%, NEUT-20%	ALB-2.22, GLU-285, PRT-4.8	68	218		NO GROWTH	NEG	NEG	EXUDATIVE					LV DYSFUNCTION	SYSTOLIC	MILD	45	MODERATE	233	USG CHEST-LEFT PLEURAL		
147	RD			TLC-300,MNV-90%, NEUT-10%	ALB-0.81, GLU-269, PRT-1.7	11			NO GROWTH	NEG		TRANSUDATIVE					LV DYSFUNCTION	DIASTOLIC		60	ABSENT	320			
148	BL			TLC-300, MNC-90%, NEUT-10%	ALB-1.12, GLU-100, PRT-2.6	17	64		NO GROWTH	NEG	NEG	TRANSUDATIVE					LV DYSFUNCTION	SYSTOLIC	SEVERE	28	ABSENT	3120			
149	BK																LV DYSFUNCTION	SYSTOLIC	MILD	48	ABSENT	397			
150	PA	2, GROW															NORMAL LV FUNCTION			60	ABSENT	853	GALACTOMANNAN +VE		YES
151	RM																NORMAL LV FUNCTION			52	MILD	278			
152	DS																LV DYSFUNCTION	SYSTOLIC	MILD	45	ABSENT	858	USG CHEST-RIGHT PLEURAL EFFUSION		
153	ML																NORMAL LV FUNCTION			60	MILD	641			
154	MK																NORMAL LV FUNCTION			60	ABSENT	231			
155	OP																NORMAL LV FUNCTION			60	ABSENT	284			

SR NO.	NAME	RESPIRATORY MANIFESTATIONS							FINAL DIAGNOSIS OF PULMONARY DISEASE	ETOLOGY OF PLEURAL EFFUSION	OUTCOME AT END OF HOSPITAL STAY	DOD
125	KS		PRESENT	PRESENT					LEFT PNEUMONIA WITH LEFT PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	27-12-2019
126	V	PRESENT							PULMONARY EDEMA		DAMA	25-12-2019
127	AK	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	06-12-2019
128	PK	PRESENT							PULMONARY EDEMA		DISCHARGED	23-12-2019
129	RK					PRESENT			COAD WITH AE		DISCHARGED	20-12-2019
130	AK	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	23-12-2019
131	BS		PRESENT	PRESENT		PRESENT			COAD WITH AE WITH LEFT PNEUMONIA WITH LEFT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	04-12-2019
132	GS		PRESENT				PRESENT		LEFT PLEURAL EFFUSION	URAEMIC	DAMA	26-12-2019
133	JS	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DAMA	28-12-2019
134	PK	PRESENT							PULMONARY EDEMA		DISCHARGED	20-12-2019
135	JK	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	19-12-2019
136	RS	PRESENT	PRESENT	PRESENT					RIGHT PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DAMA	15-12-2109
137	MS	PRESENT							PULMONARY EDEMA		DAMA	19-12-2019
138	SK				PRESENT				PULMONARY KOCH		DAMA	29-12-2019
139	AS	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	23-12-2019
140	AK	PRESENT							PULMONARY EDEMA		DISCHARGED	14-12-2019
141	KD			PRESENT		PRESENT			COAD WITH AE WITH PNEUMONIA		DISCHARGED	28-12-2019
142	MB			PRESENT					LEFT PNEUMONIA		DAMA	14-12-2019
143	MS	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	11-01-2020
144	MK	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	10-01-2020
145	JS		PRESENT	PRESENT					RIGHT PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	16-01-2020
146	KS		PRESENT				PRESENT		LEFT TUBERCULAR PLEURAL EFFUSION	TUBERCULAR	DISCHARGED	13-01-2020
147	RD	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	08-03-2020
148	BL	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	13-01-2020
149	BK	PRESENT							PULMONARY EDEMA		DISCHARGED	24-02-2020
150	PA			PRESENT					LEFT PNEUMONIA		DAMA	23-02-2020
151	RM	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	17-02-2020
152	DS	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	25-02-2020
153	ML	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	18-02-2020
154	MK	PRESENT							PULMONARY EDEMA		DISCHARGED	20-02-2020
155	OP	PRESENT							PULMONARY EDEMA		DISCHARGED	16-02-2020

SR NO.	NAME	AGE(in years)	SEX	MRD number	DATE OF ADMISSION	ETIOLOGY OF CKD	DURATION OF CKD	GFR of patient(ml/min/1.72m2)	STAGE OF CKD	ON MAINTENANCE HAEMODIALYSIS	DURATION OF DIALYSIS	MODE OF DIALYSIS	FREQUENCY OF DIALYSIS ADVISED	COMPLIANCE OF DIALYSIS	ACTUAL FRQUENCY OF DIALYSIS	INTRADIALYTIC COMPLICATIONS	RESPIRATORY COMPLAINTS									PAST MEDICAL HISTORY			
156	RC	62	MALE	664525	04-02-2020	1	8 MONTHS	17	4	NO									3	4						1	2		
157	RKP	65	MALE	558842	30-02-2020	1	3 YEARS	4	5D	YES	8 MONTHS	HAEMODIALYSIS	TWICE A WEEK	YES		NO	1						7			1	2		
158	SD	62	FEMALE	721052	18-02-2020	1	2 YEARS	18	4	NO									3	4		6	7			1	2		4
159	RK	67	FEMALE	895645	15-02-2020	1	2 YEARS	32	3b	NO							1						7			1	2		
160	HL	67	MALE	336403	17-01-2020	1	3 YEARS	21	4	NO							1		3	4		6				1	2		
161	KB	67	MALE	215972	06-02-2020	1	5 YEARS	5	5D	YES	2 YEARS	HAEMODIALYSIS	THRICE A WEEK	NO	ONCE A WEEK	YES	1						7			1	2		4
162	MK	63	FEMALE	907879	28-02-2020	2	9 MONTHS	14	5	NO							1		3				7				2		
163	PKA	81	MALE	179160	25-02-2020	1	3 YEARS	13	5	NO							1		3				7			1	2		4
164	A	64	FEMALE	847679	03-03-2020	1	4 YEARS	18	4	NO							1						7			1	2		
165	SC	77	MALE	111923	01-03-2020	1	2 YEARS	8	5D	YES	5 MONTHS	HAEMODIALYSIS	TWICE A WEEK	NO	ONCE A WEEK	NO	1						7			1	2		4
166	SS	44	MALE	882306	05-03-2020	1	3 MONTHS	24	4	NO									3	4		6				1			
167	RK	65	FEMALE	911404	05-03-2020	1	2 YEARS	26	4	NO							1		3							1			
168	RMP	60	MALE	922165	13-03-2020	1	2 YEARS	7	5	NO							1		3	4		6				1	2		
169	JS	50	MALE	758783	08-03-2020	1	1 YEAR	14	5	NO							1		3				7			1	2		4
170	CS	60	MALE	871785	05-03-2020	1	5 YEARS	4	5D	YES	2 MONTHS	HAEMODIALYSIS	THRICE A WEEK	YES		NO		2	3			6				1	2		
171	GS	64	MALE	101479	11-03-2020	1	1 YEAR	18	4	NO							1						7			1	2		
172	JS	57	MALE	609947	14-03-2020	1	1 YEAR	4	5D	YES	2 MONTHS	HAEMODIALYSIS	TWICE A WEEK	NO		NO	1		3	4		6				1	2		4
173	KN	64	MALE	847397	20-02-2020	1	9 MONTHS	13	5	NO							1						7			1	2		
174	SS	62	MALE	757368	17-02-2020	1	2 YEARS	17	4	NO							1									1	2		
175	GS	61	MALE	876055	05-03-2020	1	8 MONTHS	36	3b	NO							1		3	4		6				1			
176	NK	61	FEMALE	876013	04-03-2020	1	2 YEARS	14	5	NO							1		3				7			1			
177	GK	58	FEMALE	57391	25-02-2020	1	3 YEARS	11	5D	YES	4 MONTHS	HAEMODIALYSIS	TWICE A WEEK	NO	ONCE A WEEK	NO	1						7			1	2		4
178	BS	61	MALE	618736	18-03-2020	1	2.5 YEARS	10	5D	YES	6 MONTHS	HAEMODIALYSIS	ONCE A WEEK	NO	THRICE A WEEK	NO	1						7			1	2		
179	IK	70	FEMALE	625773	05-03-2020	1	2 YEARS	16	4	NO									3	4						1			
180	PK	68	MALE	810367	17-03-2020	1	3 YEARS	6	5D	YES	8 MONTHS	HAEMODIALYSIS	TWICE A WEEK	YES		NO	1						7			1			
181	VR	70	FEMALE	891326	02-02-2020	1	7 YEARS	15	4	NO							1		3	4		6				1			4
182	GK	65	FEMALE	908331	06-03-2020	1	2 YEARS	21	4	NO									3	4		6				1			

SR NO.	NAME			PERSONAL HISTORY			VITALS				GENERAL PHYSICAL EXAMINATION							SYSTEMIC EXAMINATION			RESPIRATORY EXAMINATION					DIAGNOSIS ON BASIS OF RESPIRATORY EXAMINATION	ANAEMIA	GRADE OF ANAEMIA	INVESTIGATIONS				
156	RC	5		1			102	22	110/70	99	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	INCREASED B/L LZ	B/L LZ CONSOLIDATION	PRESENT	MODERATE	9.3	8.1	210		107
157	RKP						62	20	100/60	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.1	12.8	130	38	216
158	SD						98	22	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	NORMAL	LEFT LZ BRONCHIAL	B/L CREPTS	INCREASED LEFT LZ	LEFT LZ CONSOLIDATION	PRESENT	SEVERE	7.8	24	221		123
159	RK						80	20	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.4	8.9	225		88
160	HL	5		1			112	22	110/70	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	NORMAL	RIGHT LZ BRONCHIAL BREATHING	B/L RHONCHI, RIGHT LZ CREPTS	DECREASED RIGHT LZ	RIGHT LZ CONSOLIDATION WITH RIGHT PLEURAL EFFUSION	PRESENT	MODERATE	8.5	10.4	180		153
161	KB						89	20	130/80	98	ABSENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITRH B/L PLEURAL EFFUSION	ABSENT		12.7	6.1	200		239
162	MK						80	22	110/70	99	PRESENT		PRESENT	PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	SEVERE	6.1	9.4	303	22	197
163	PKA						88	22	120/80	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.9	11.7	264		213
164	A						88	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	8.5	5.8	169		129
165	SC						80	20	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MILD	11.2	9	101		71
166	SS						112	24	120/80	100	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT SIDE	NORMAL	RIGHT MZ BRONCHIAL		INCREASED RIGHT MZ	RIGHT MZ CONSOLIDATION	PRESENT	MODERATE	9	17.7	130	74	250
167	RK						90	20	110/70	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	9.6	17.2	550	120	45
168	RMP						102	20	130/780	99	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	NORMAL	RIGHT LZ BRONCHIAL BREATHING	RIGHT SIDE CREPTS	INCREASED RIGHT LZ	RIGHT LZ CONSOLIDATION	PRESENT	SEVERE	4	21.5	154	140	369
169	JS						108	22	130/80	100	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	MODERATE	9.9	24.9	294	69	210
170	CS						78	24	110/70	99	PRESENT		PRESENT	ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS		DECREASED B/L LZ	B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.7	4.1	120	110	206
171	GS						90	20	120/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS	B/L CREPTS	DECREASED B/L LZ	PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.6	5.9	150	63	188
172	JS						112	ON MV	100/60	100	PRESENT		PRESENT	ABSENT				ABNORMAL	NORMAL	NORMAL	DULL NOTE LEFT MZ	NORMAL	LEFT MZ BRONCHIAL	LEFT SIDE CREPTS	INCREASED LEFT MZ	LEFT MZ CONSOLIDATION	PRESENT	SEVERE	4.9	14.4	281		193
173	KN						80	20	140/90	98.4	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS		DECREASED B/L LZ	B/L PLEURAL EFFUSION	PRESENT	MODERATE	8.6	13.5	120	83	136
174	SS		6	1			90	22	150/90	98.6	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	ABSENT		13.2	15.9	501	79	240
175	GS						108	22	120/70	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	NORMAL	NVBS	B/L CRESPTS	INCREASED B/L LZ	B/L LZ CONSOLIDATION	PRESENT	MILD	11.3	13.3	258	49	65
176	NK						90	22	110/70	99	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	DECREASED LEFT LZ	NVBS	B/L CREPTS	DECREASED LEFT LZ	PULMONARY EDEMA WITH LEFT PLEURAL EFFUSION	PRESENT	MODERATE	9.5	12.8	204	81	180
177	GK						80	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS	B/L CREPTS	DECREASED RIGHT LZ	PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	ABSENT		12.9	12.5	246		168
178	BS						92	20	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NVBS	B/L CREPTS	NORMAL	PULMONARY EDEMA	PRESENT	SEVERE	6.4	17.1	432	120	71
179	IK						92	26	110/70	99	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	RIGHT LZ BRONCHIAL BREATHING	RIGHT SIDE CREPTS	INCREASED RIGHT LZ	RIGHT LZ CONSOLIODATION	PRESENT	SEVERE	6.9	9.4	395	105	106
180	PK						82	22	110/70	98	PRESENT			PRESENT				NORMAL	NORMAL	NORMAL	DULL NOTE B/L LZ	DECREASED B/L LZ	NVBS		DECREASED B/L LZ	B/L PLEURAL EFFUSION	PRESENT	MODERATE	9.8	8.5	266	103	139
181	VR						92	22	110/80	98	PRESENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE RIGHT LZ	DECREASED RIGHT LZ	NVBS	RIGHT SIDE CREPTS	DECREASED RIGHT LZ	RIGHT SIDE PLEURAL EFFUSION	PRESENT	SEVERE	7.1	18.4	350	101	243
182	GK						90	20	110/70	98	ABSENT			ABSENT				NORMAL	NORMAL	NORMAL	DULL NOTE LEFT LZ	NORMAL	LEFT LZ BRONCHIAL		INCREASED LEFT LZ	LEFT LZ CONSOLIDATION	ABSENT		13.2	8.6	305		63

SR NO.	NAME						URINE ANALYSIS			CHEST XRAY FINDINGS										DIAGNOSIS ON BASIS OF RADIOLOGICAL FINDINGS	PLEURAL EFFUSION		SITE OF PNEUMONIA	SPUTUM ANALYSIS			
156	RC	6.66	134/5.19/95	8.9/5.3	123/111	3.41				ABSENT	PRESENT	PRESENT	ABSENT		PRESENT		PRESENT			B/L LZ PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	MILD	BILATERAL	B/L BRONCHOPNEUMONIA	1,2	2		
157	RKP	6.75	136/4.67/103	7.7/8.2	40/39	3.17	2+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
158	SD	4.3	131/3.83/97	6.7/8	17/13	2.17	3+	PRESENT	PUS CELLS + RBC'S	ABSENT	ABSENT	ABSENT	PRESENT							LEFT LZ PNEUMONIA			LEFT LOWER ZONE	1	5		
159	RK	2.71	137/3.87/100				2+	ABSENT	RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
160	HL	4.48	133/4.17/94		37/35	3.21	2+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	ABSENT							RIGHT LZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION	MODERATE	RIGHT SIDE	RIGHT LOWER ZONE	2	5		
161	KB	7.68	132/3.87/92	8.1/9.4	13/13	3.45	1+	ABSENT	RBC'S	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
162	MK	12.3	144/6.5/107	9.5/11.2	69/43	2.47				PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
163	PKA	7.7	142/3.9/92		22/13	3.58	2+	ABSENT	PUS CELLS + RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
164	A	3.38	134/4.64/97				2+	PRESENT	PUS CELLS + [illegible]	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
165	SC	5.76	140/5.9/101		102/93	3.26	2+	ABSENT	PUS CELLS	PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
166	SS	6.57	137/3.69/99	7.6/5.8	19/16	3.4	2+	ABSENT	NORMAL	ABSENT	ABSENT	ABSENT	PRESENT							RIGHT MZ PNEUMONIA			RIGHT MIDDLE	1,2	5		
167	RK	2.12	131/3.9/94	8/4.5	33/24	2.48	2+	PRESENT	PUS CELLS + RBC'S	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
168	RMP	15.51	141/5.84/96		489/355	2.35	3+	ABSENT	PUS CELLS	ABSENT	PRESENT	ABSENT	PRESENT							RIGHT LZ PNEUMONIA WITH RIGHT PLEURAL EFFUSION	MODERATE	RIGHT SIDE	RIGHT MIDDLE ZONE	1	6		
169	JS	8.39	135/6.5/105	8.6/4.3	26/30	3.19	3+	ABSENT	NORMAL	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	MILD	BILATERAL					
170	CS	4.72	128/5.95/86		45/21	2.15				ABSENT	PRESENT	ABSENT	ABSENT			PRESENT				B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
171	GS	8.97	138/5.66/101		21/13	3.63	3+	ABSENT	NORMAL	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
172	JS	4.06	132/5.58/94	7.3/5.14	51/35	2.53	2+	ABSENT	PUS CELLS	PRESENT	ABSENT	ABSENT	PRESENT							LEFT MZ PNEUMONIA			LEFT MIDDLE ZONE	1	5		
173	KN	5.5	136/5.1/109	7.3/3.5	28/23	3.51	3+	ABSENT	RBC'S	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MILD	BILATERAL					
174	SS	6.67	120/5.3/80		32/25	3.03	3+	ABSENT	NORMAL	ABSENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
175	GS	2.39	130/4/96		30/18	2.26	3+	ABSENT	PUS CELLS	ABSENT	ABSENT	ABSENT	PRESENT				PRESENT			B/L LZ PNEUMONIA			B/L BRONCHOPN	1	2		
176	NK	7.12	134/5.77/98	8.8/9.44	52/48	3.64	3+	ABSENT	PUS CELLS	ABSENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
177	GK	8.43	139/4.7/101	8.4/4.6			2+	ABSENT	PUS CELLS + RBC'S	PRESENT	PRESENT	PRESENT	ABSENT							PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	MODERATE	RIGHT SIDE					
178	BS	4.65	137/4.78/99		35/19	3.16				PRESENT	ABSENT	PRESENT	ABSENT							PULMONARY EDEMA							
179	IK	3.92	115/5.37/85	8.8/3.3	26/25	3.6	3+	ABSENT	NORMAL	ABSENT	PRESENT	ABSENT	PRESENT							RIGHT LZ PNEUMONIA WITH B/L PLEURAL EFFUSION	MODERATE	BILATERAL	RIGHT BRONCHOPNEUMONIA	1	1		
180	PK	9.63	134/6.13/101							ABSENT	PRESENT	ABSENT	ABSENT							B/L PLEURAL EFFUSION	MODERATE	BILATERAL					
181	VR	9.25	128/5.74/91	8.2/3.2	36/52	3.33	3+	ABSENT	NORMAL	ABSENT	ABSENT	ABSENT	PRESENT							RIGHT LZ PNEUMONIA			RIGHT LOWER ZONE	1,2	5		
182	GK	3.3	136/4.3/91	9.5/2.57	25/25	4.03	2+	PRESENT	NORMAL	ABSENT	ABSENT	ABSENT	PRESENT							LEFT LZ PNEUMONIA			LEFT LOWER ZONE	1,2	5		

SR NO.	NAME			PLEURAL FLUID ANALYSIS									CT CHEST FINDINGS				LEFT VENTRICULAR DYSFUNCTION	SYSTOLIC/DIASTOLIC DYSFUNCTION	LV SYSTOLIC DYSFUNCTION GRADE	LEFT VENTRICULAR EF	PULMONARY ARTERY HYPERTENSION ON ECHO	BNP LEVELS	OTHERS REPORTS	TYPE 2 RESPIRATORY FAILURE	INTUBATED DURING HOSPITAL STAY
156	RC												B/L PLEURAL EFFUSION	PRESENT	B/L LOWER ZONE CONSOLIDATION	PULMONARY CALCIFICATION	LV DYSFUNCTION	SYSTOLIC	SEVERE	26	MILD	>5000	PCO2-64		
157	RKP																NORMAL LV FUNCTION			60	ABSENT	102			
158	SD	1															LV DYSFUNCTION	DIASTOLIC		52	ABSENT	842			
159	RK																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	242			
160	HL	1		TLC-800, NEU-90%, LYMP-10%	ALB-2.43, GLU-58, PRT-5.9	30	1195		BURKHOLDERIA CAPACIA	NEG	NEG	EXUDATIVE	MODERTE RIGHT PLEURAL EFFUSION		RIGHT LZ CONSOLIDATION	TUBULAR BRONCHIECTASIS						1246		PRESENT	
161	KB																LV DYSFUNCTION	SYSTOLIC	MODERATE	35	ABSENT	>5000			
162	MK			TLC-300, MNC-90%, NEUT-10%	ALB-1.07, GLU-122, PRT-2.4	25	131		NO GROWTH			TRANSUDATIVE					LV DYSFUNCTION	SYSTOLIC	MODERATE	32	MODERATE	2400			
163	PKA																NORMAL LV FUNCTION			60	ABSENT				
164	A																NORMAL LV [illegible]			60	MODERATE	134			
165	SC																LV DYSFUNCTION	SYSTOLIC	SEVERE	22	ABSENT	2460			
166	SS																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	84			
167	RK			TLC-300, MNC-90%, NEUT-10%	ALB-0.69, GLU-236, PRT-1.3	14	95		NO GROWTH			TRANSUDATIVE					NORMAL LV FUNCTION			60	ABSENT	1100			
168	RMP		\														NORMAL LV FUNCTION			60	ABSENT	1138			
169	JS																LV DYSFUNCTION	SYSTOLIC	MODERATE	34	ABSENT	1248			
170	CS			TLC-1000, MNC-40%, NEUT-60%	ALB-0.54, GLU-17, PRT-1.7	47	2673		PSEUDOMONAS	NEGATIVE	POSITIVE	EXUDATIVE	B/L PLEURAL EFFUSION									1500			
171	GS																LV DYSFUNCTION	SYSTOLIC	MILD	45	ABSENT	1128			
172	JS																LV DYSFUNCTION	SYSTOLIC	MILD	48	MODERATE	846			YES
173	KN																NORMAL LV FUNCTION			60	ABSENT	848	USG CHEST-B/L PLEURAL EFFUSION		
174	SS																NORMAL LV FUNCTION			60	ABSENT	234			
175	GS														B/L LOWER ZONE CONSOLIDATION										
176	NK																NORMAL LV FUNCTION			60	MODERATE	250	USG CHEST-LEFT PLEURAL EFFUSION		
177	GK			TLC-700, MNC-70%, NEUT-30%	ALB-2.16, GLU-249, PRT-4.8		158		NO GROWTH			TRANSUDATIVE					LV DYSFUNCTION	SYSTOLIC	SEVERE	22	MODERATE	2468			
178	BS																LV DYSFUNCTION	SYSTOLIC	MILD	45	MODERATE	>5000			
179	IK			TLC-700,MNC-90%, NEUT-10%	ALB-2.09, PRT-3.8, GLU-128	19.4	291		NO GROWTH			EXUDATIVE					NORMAL LV FUNCTION			55	ABSENT	529			YES
180	PK			TLC-250, MNC-80%, NEUT-20%	ALB-2,41, GLU-131, PRT4.4	14	172		NO GROWTH			EXUDATIVE	B/L PLEURAL EFFUSION									2410	SERUM LDH-211		
181	VR	1													B/L LOWER ZONE CONSOLIDATION	FIBROBRONCHIECTATIC						1580			
182	GK																LV DYSFUNCTION	DIASTOLIC		60	ABSENT	128			

SR NO.	NAME	RESPIRATORY MANIFESTATIONS							FINAL DIAGNOSIS OF PULMONARY DISEASE	ETOLOGY OF PLEURAL EFFUSION	OUTCOME AT END OF HOSPITAL STAY	DOD
156	RC	PRESENT	PRESENT	PRESENT			PRESENT		B/L PNEUMONIA WITH B/L PLEURAL EFFUSION WITH PULMONARY EDEMA	FLUID OVERLOAD	DISCHARGED	11-02-2020
157	RKP	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	10-03-2020
158	SD			PRESENT					LEFT PNEUMONIA		DAMA	06-03-2020
159	RK	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	23-02-2020
160	HL		PRESENT	PRESENT		PRESENT			COAD WITH AE WITH PNEUMONIA WITH RIGHT SIDED EMPYEMA	EMPYEMA	DISCHARGED	06-02-2020
161	KB	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	30/02/2020
162	MK	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	04-03-2020
163	PKA	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	05-03-2020
164	A	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	06-03-2020
165	SC	PRESENT							PULMONARY EDEMA		DISCHARGED	07-03-2020
166	SS			PRESENT					RIGHT PNEUMONIA		DISCHARGED	09-03-2020
167	RK	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	15-03-2020
168	RMP		PRESENT	PRESENT					RIGHT PNEUMONIA WITH RIGHT PLEURAL EFFUSION	SYNPNEUMONIC	DISCHARGED	19-03-2020
169	JS	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	12-03-2020
170	CS		PRESENT						TUBERCULAR PLEURAL EFFUSION	TUBERCULAR	DAMA	24-03-2020
171	GS	PRESENT	PRESENT						PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	17-03-2020
172	JS			PRESENT			PRESENT		LEFT PNEUMONIA		DISCHARGED	28-03-2020
173	KN	PRESENT	PRESENT						PULMONARY EDEMA WITH PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	27-02-2020
174	SS	PRESENT							PULMONARY EDEMA		DISCHARGED	30/02/2020
175	GS			PRESENT					B/L PNEUMONIA		DISCHARGED	11-03-2020
176	NK	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH B/L PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	06-03-2020
177	GK	PRESENT	PRESENT				PRESENT		PULMONARY EDEMA WITH RIGHT PLEURAL EFFUSION	FLUID OVERLOAD	DISCHARGED	04-03-2020
178	BS	PRESENT					PRESENT		PULMONARY EDEMA		DISCHARGED	20-03-2020
179	IK		PRESENT	PRESENT					RIGHT LZ PNEUMONIA WITH PLEURAL EFFUSION	SYNPNEUMONIC	DAMA	27-03-2020
180	PK		PRESENT						B/L PLEURAL EFFUSION	URAEMIC	DISCHARGED	23-03-2020
181	VR			PRESENT					RIGHT PNEUMONIA		DISCHARGED	18-02-2020
182	GK			PRESENT					LEFT SIDE PNEUMONIA		DISCHARGED	11-03-2020

Baba Farid University of Health Sciences
Sadiq Road
Faridkot-151 203 (Pb). INDIA.
Phone : 01639-256232,256236
Tele/Fax : 01639-256235
Email – Examination@bfuhs.ac.in

13

No. BFUHS/2K19p-TH/ 10398

Date 9/9/19

The Principal,
DMC, Ludhiana.

Subject: **Approval of Plan of Thesis.**

This is to inform you that the Faculty of Medical Sciences in its meeting held on 29.05.2019 has approved the plan of thesis of **Ishan Mittal**, a student of your college for **MD General Medicine** along with the names of Supervisor/Co-Supervisor as under:-

Topic Plan of Thesis

Spectrum of pulmonary involvement in patients of chronic kidney disease

Supervisor
Dr. Harmeet Pal Singh Dhooria
Assoc. Prof.,
Dept. of Medicine,
DMCH, Ludhiana.

Co-Supervisor
Dr. Vikas Makkar
Prof. & Head,
Dept. of Nephrology,
DMCH, Ludhiana.

Dr. Akashdeep Singh
Prof.,
Dept. of Pulmonary Medicine,
DMCH, Ludhiana.

The student has to submit the four copies of thesis (along with PDF format) , to the Controller of Examinations, BFUHS, Faridkot, at least six months before the commencement of theory examination, if he/she is otherwise eligible to take the examination. He /She must directed to attach a photocopy of this letter with the forwarding letter while submitting thesis to the University along with the letter of approval of University for change of supervisor/Co-Supervisor, change of topic,(if any).

SP Singh

Dr. S P Singh MS(Oph)
Controller of Examinations

Note :

1. *If any discrepancy found regarding topic of thesis or Supervisor/Co-Supervisor; inform undersigned within one month after issue of this letter.*
2. *The student may submit the thesis as per the schedule already conveyed i.e for May/June examination 30th Nov of the preceding the year of examination and for Nov/Dec examinations 31st May of the year of examination.*

SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE

THESIS PROPOSAL

FOR APPROVAL OF SUBJECT OF THESIS TO BE SUBMITTED

IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

DOCTOR OF MEDICINE

IN

MEDICINE

OF THE

BABA FARID UNIVERSITY OF HEALTH SCIENCES
FARIDKOT

SEPTEMBER, 2018

DR. ISHAN MITTAL

DEPARTMENT OF MEDICINE
DAYANAND MEDICAL COLLEGE & HOSPITAL
LUDHIANA

ABSTRACT OF PLAN OF THESIS

Title	SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE
For the degree of	MD MEDICINE
Name of the candidate	Dr. Ishan Mittal
Supervisor	Dr. Harmeet Pal Singh Dhooria, Associate Professor, Department of Medicine, DMCH, Ludhiana
Co-supervisor(s)	Dr. Vikas Makkar, Professor & Head, Department of Nephrology, DMCH, Ludhiana. Dr. Akashdeep Singh, Professor, Department of Pulmonary Medicine, DMCH, Ludhiana.
Institution	Dayanand Medical College & Hospital, Ludhiana
University	Baba Farid University of Health Sciences, Faridkot

Introduction: Kidney disease can affect the lungs by different mechanisms and can have an affect on the outcome of these patients. Early diagnosis of pulmonary involvement and appropriate treatment can significantly improve the outcome in such patients.

Aim of Study: To study the spectrum of pulmonary involvement in patients of chronic kidney disease.

Materials & methods: 1. The cross-sectional study will be carried out on patients admitted in the Department of Medicine and it's Allied Specialties of Dayanand Medical College and Hospital over a 15 months period.

2. Diagnosed patients of CKD [stage 3, stage 4, stage 5ND] not on haemodialysis and those who are on maintenance haemodialysis/CAPD (Stage 5D), who are admitted with respiratory complaints and in whom respiratory diagnosis is established during hospital stay will be enrolled for the study.

3. Detailed history, physical examination and relevant investigations done will be noted.

Clinical Significance: A proper understanding of different pulmonary manifestations in these patients can improve their outcome.

Keywords: chronic kidney disease, haemodialysis, pleural effusion, tuberculosis.

(Signature)	(Signature)	(Signature)	(Signature)	(Signature)
Candidate	Co-supervisor(s)	Co-supervisor(s)	Supervisor	Principal

CERTIFICATE OF FACILITIES AVAILABLE

This is to certify that the facilities for work on the subject of thesis entitled "**SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE**" exist in the Department of Medicine, Dayanand Medical College & Hospital, Ludhiana and will be provided to the candidate. We will see that the data being included in the thesis are genuine and is collected by the candidate himself under our supervision and guidance.

Supervisor

Dr. Harmeet Pal Singh Dhooria
Associate Professor
Department of Medicine
DMCH, Ludhiana

Co-Supervisor(s)

Dr. Vikas Makkar
Professor & Head
Department of Nephrology
DMCH, Ludhiana

Dr. Akashdeep Singh
Professor
Department of Pulmonary Medicine
DMCH, Ludhiana

Dr. Dinesh Gupta
Professor & Head
Department of Medicine
DMCH, Ludhiana

Place : LUDHIANA

Date : 21/12/2018

APPROVAL PROFORMA
BY
RESEARCH & ETHICAL COMMITTEE
DAYANAND MEDICAL COLLEGE & HOSPITAL, LUDHIANA

Name of candidate	DR. ISHAN MITTAL
Department	MEDICINE
Topic of Thesis	SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE
Likely date of appearing in PG examination	MAY, 2021
Date of enrollment	MAY, 2018
Name of Head of Department	DR. DINESH GUPTA
1) Supervisor **2) Co-Supervisor(s)**	DR. HARMEET PAL SINGH DHOORIA DR. VIKAS MAKKAR DR. AKASHDEEP SINGH
Signature of Members of Research Committee with Stamp	**Signature of Members of Ethics Committee with Stamp**
1. HOD Pharmacology	1. HOD Physiology
2. HOD Surgery	2. HOD Pathology
3. HOD Pathology	3. HOD Pharmacology
4. HOD Medicine	4. HOD SPM
5. Dean Academics	5. HOD Medicine
6. Vice Principal	6. HOD Surgery
	7. HOD Obst. & Gynae.
	8. Legal Expert
	9. Secretary, IEC
	10. Dean Academics
	11. Vice Principal
	12. Principal

Approved: Yes / No

Chairperson
Research Committee

Chairperson
Research Committee

Approved: Yes / ~~No~~

Chairperson
Ethics Committee

Chairperson
Ethics Committee

BABA FARID UNIVERSITY OF HEALTH SCIENCES, FARIDKOT

PROFORMA FOR REGISTRATION OF SUBJECT FOR DISSERTATION

1	**NAME OF THE CANDIDATE AND ADDRESS**	DR. ISHAN MITTAL
2	**NAME OF THE INSTITUTE**	DAYANAND MEDICAL COLLEGE & HOSPITAL, LUDHIANA
3	**COURSE OF STUDY AND SUBJECT**	MD MEDICINE
4	**DATE OF ADMISSION OF COURSE**	10th MAY, 2018
5	**TITLE OF THE TOPIC**	SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE

6. BRIEF RESUME OF THE INTENDED WORK

6.1 NEED FOR THE STUDY

Chronic kidney disease (CKD) is a worldwide public health problem and comprises the presence of sustained and irreversible abnormality of renal functions and loss of the kidneys' ability to maintain homeostasis. CKD results from different causes of renal injury and can lead to progressive loss of renal function. It may reach end-stage renal disease (ESRD) after a variable period of time following the initiating injury.[1]

The relationship between the lungs and the kidneys is clinically important for both health and disease. Kidney failure directly and indirectly impacts the mechanical function and ventilation of the lungs, and treatment of CKD with drugs and HD are responsible for part of this effect.

They are different pulmonary manifestation in CKD patients. But there is not much data available that specifies the complete spectrum of pulmonary involvement in such patients. So, This detailed study will give us a better understanding of respiratory involvement and such data can help us to improve the outcome in these patients.

A number of respiratory complications occur in patients with chronic renal disease. Some of these are related to alterations in volume status, plasma oncotic pressure, bone and mineral metabolism, concomitant heart failure, and altered immune function in such patients, in some instances the precise mechanisms are not well understood.

Some of the pulmonary manifestations that can occur in patients of chronic kidney disease are as follows:

Pulmonary edema is a common complication in both acute and chronic renal failure. Its pathogenesis is controversial. Hypoalbuminemia (characteristic of chronic renal failure) decreases plasma oncotic pressure and thus fosters movement of fluid out of the pulmonary capillaries. Such movement is also promoted by the increased hydrostatic pressure that occurs in congestive heart failure, which is common in this condition. One would assume that the edema fluid resulting from these processes would be low in protein, as is characteristic of "cardiac" or hydrostatic pulmonary edema. However, the finding of increased protein concentrations in the edema fluid of these patients with renal failure suggests that capillary permeability is also altered.[2,3,4]

Pleural effusion is common in patients with CRF. They can be secondary to fluid overload, renal cardiac disease, pulmonary embolism or tuberculosis infection. However, pleural effusions primarily related to uremia may also be seen. These may be unilateral or bilateral and range in size from small to massive. They may macroscopically be clear or more commonly sero-sanguineous or frankly hemorrhagic. Protein content is variable with the effusion being more frequently exudative. Uremic pleural effusion is diagnosed by excluding other possible etiologies. Response to renal replacement is not invariable.[5]

Patients with CKD, especially those on maintenance haemodialysis are immunocompromised. Compared to the general population, patients with CKD and those on maintenance dialysis have at least a several-fold greater risk of developing tuberculosis. Host resistance to infection is primarily mediated by

cellular immunity which is deficient in patients with CKD which predisposes these patients to increased risk of tuberculosis.[6]

Pneumonia is one of the common sources of infectious morbidities in patients with chronic kidney disease (CKD). Pneumonia in patients with is associated with increased hospitalization, cardiovascular events, and mortality. The pneumonia-related mortality rate of patients with CKD is several fold higher than that of the general population. The risk of inpatient pneumonia and mortality within 30 days is increased with the decline of renal function in patients with CKD.[7,8]

Sleep apnea is extremely common in patients with CKD. Its prevalence is said to be 10- fold higher in patients with end-stage renal disease than in general population and studies have found that at least 60% of patients on chronic haemodialysis have the disorder. Other sleep disturbances, such as restless leg syndrome and periodic limb movement disorder, are also very common in this population.[9,10]

Metastatic calcification occurs as a complication of chronic renal failure, and may be found in a wide variety of visceral organs and soft tissues. When it occurs in the lungs, it is usually asymptomatic. Although not typically apparent on chest radiography, pulmonary calcification can sometimes be detected with computed tomography, or, more specifically, by technitium-99m-diphosphonate scanning. When visible on the standard chest radiograph, pulmonary calcification most often produces small nodular opacities, which may occasionally coalesce into larger infiltrates.[11,12]

Thus we can say that deranged kidney functions can affect lungs in number of mechanism and patient of CKD can have different pulmonary manifestation.

A proper understanding of spectrum of pulmonary involvement in CKD patients can improve the outcome in such patients.

6.2 REVIEW OF LITERATURE

Venkatesh Moger et al studied prevalence of different respiratory manifestations in patients with CKD and observed that commonest respiratory complaint being Pulmonary edema (67%), followed by pleural effusion (54%). Pleural effusion was predominantly right sided and transduative. Pneumonia occurred in 5% of them. Pleural thickening was present in 11%. Pulmonary calcification was noted by chest X-ray and CT chest in 13%. Sleep apnea was present in 12 out of 20 patients studied.[13]

Hideyuki Mukaia et al studied Lung Dysfunction and Mortality in Patients with Chronic Kidney Disease and concluded Impaired lung function, especially restrictive lung dysfunction, is a common feature of advanced CKD that associates with severity of renal failure, presence of Protein energy wasting, inflammation and CVD, and with 5-year all-cause and CVD-related mortality. The prevalence of restrictive lung function increased in proportion to the number of comorbid conditions, PEW, inflammation and CVD, being present concomitantly, from 13% in patients with none of these conditions to 64% when three of them were present.[14]

Ashima Sharma et al studied pulmonary function in end-stage renal disease patients on haemodialysis and concluded Pulmonary function abnormalities were common among their study patients, but were significantly ameliorated after HD. The majority of their patients had restrictive and mixed respiratory disorders. In the pulmonary function tests on their ESRD patients, spirometric parameters like FVC, FEV1 and PEFR were less than the normal predicted values (i.e. < 80% of the predicted values) in the majority of these patients.[1]

Juliana L.Cury et al studied Negative effects of chronic kidney failure on lung function and functional capacity and concluded respiratory muscle strength, lung function and functional capacity in patients with CKF undergoing dialysis and in kidney transplantation patients show lower values than those of the general population, and that patients undergoing dialysis have greater impairment of muscle and lung function than do kidney transplant patients.[15]

Carol M. Headley et al studied Flash Pulmonary Edema in Patients with Chronic Kidney Disease and End Stage Renal Disease and concluded Patients with CKD are at risk for developing flash pulmonary edema. Cardiovascular disease is highly prevalent in the kidney disease population. Diastolic heart failure is often unsuspected without clinical suspicion since the presentation is similar to that seen with systolic heart failure. The prevalence of LVH at the time patients begin dialysis increases the likelihood of patients developing both systolic and diastolic dysfunction which can lead to development of flash pulmonary edema.[16]

Andrew bush et al studied Pulmonary function in chronic renal failure: effects of dialysis and transplantation and reach to conclusion that abnormalities of lung function are very common in renal failure, the major finding being a reduction in carbon monoxide transfer factor. Although haemodialysis may induce acute changes in lung function. There seems to be no additional effect on lung function. Continuous ambulatory peritoneal dialysis was associated with a slightly greater reduction in carbon monoxide transfer factor than was found in predialysis and haemodialysis patients. After transplantation the changes were still present, and residual volume was reduced.[17]

Che-Yi Chou et al conducted study on risk of Pneumonia Among Patients With Chronic Kidney Disease in Outpatient and Inpatient Settings and concluded CKD is associated with the increased risk of both outpatient and inpatient pneumonia. The risk of pneumonia was 1.97-fold higher in patients with CKD, 1.4-fold higher for outpatient pneumonia, and 2.17-fold higher for inpatient pneumonia compared with patients without CKD. Patients with CKD have not only an increased risk of pneumonia but also an increased severity of pneumonia (indicated by hospitalization) compared with patients without CKD. The risk of overall pneumonia was higher in patients with CKD than in patients with other comorbidities (COPD, asthma, and diabetes). The risk of inpatient pneumonia was also the highest in patients with CKD. These results suggested that CKD might be an independently important contributor to the increased risk of pneumonia.[7]

R. Munda et al studied Pulmonary Infections in Renal Transplant and observed that most significant factor related to pulmonary infection was the presence of reduced renal function compared to non infected patients. Acute rejection episodes were often associated with the infections, but renal function was significantly poorer than non infected controls even before the onset of rejection. In renal failure, there is impairment of the inflammatory response along with impaired humoral and cellular immune processes. Furthermore, uremia has been found to impair lung bacterial clearance, and a high incidence of pulmonary infections has been reported in patients with renal failure.[18]

A. Yousef et al studied pulmonary tuberculosis in patients of chronic kidney disease and concluded Patients with chronic renal failure are at increased risk

for pulmonary and extra pulmonary tuberculosis and should be screened routinely and carefully for early detection of TB infection.[19]

S. Pabs et al studied Pulmonary Hypertension in Patients with Chronic Kidney Disease on Dialysis and without Dialysis concluded that precapillary PH is a common co-morbidity in CKD patients on dialysis. End-stage kidney disease and/or hemodialysis rather than the renal insufficiency itself seems to be the main determining risk factor for developing precapillary pulmonary hypertension.[20]

S Yilmaz conducted study on Pulmonary Function in Patients with End-Stage Renal Disease: Effects of Hemodialysis and Fluid Overload and concluded that fluid overload is closely associated with restrictive and obstructive respiratory abnormalities in HD patients. In addition, hemodialysis has a beneficial effect on pulmonary function tests, which may be due to reduction of volume overload.[21]

6.3 AIMS AND OBJECTIVES OF THE STUDY

1. To study the spectrum of pulmonary involvement in patients of chronic kidney disease.
2. To compare the spectrum of pulmonary involvement between chronic kidney disease patients on maintenance haemodialysis/CAPD [stage 5D] and chronic kidney disease patients not on haemodialysis [stage 3, stage 4, stage 5ND].

7. MATERIALS AND METHODS

The cross–sectional study will be carried out on patients admitted in Department of Medicine, Department of Nephrology, Department of Pulmonary Medicine and the other allied specialties of Medicine, Dayanand Medical College and Hospital, Ludhiana over a 15 months period.

Diagnosed patients of chronic kidney disease not on haemodialysis [stage 3. stage 4, stage 5D] and chronic kidney disease patients on maintenance haemodialysis/CAPD [stage 5D] who are admitted with respiratory complaints and in whom the specific respiratory diagnosis is established during hospital stay will be enrolled for the study. These patients will form 2 groups viz: chronic kidney disease patients not on haemodialysis and chronic kidney disease patients on maintenance haemodialysis:

Group A: Chronic Kidney Disease patients with CKD stage 3, stage 4, stage 5ND will be taken in this group-

CRITERIA TO DEFINE CKD (based upon KDIGO 2012 clinical practice guidelines)

1. Duration of disease >3 months based upon documentation or inference

2. GFR <60 ml/min/1.73m^2

3. Kidney damage as defined by structural abnormalities or functional abnormalities other than decreased GFR

- Albuminuria as a marker of kidney damage [AER≥30mg/24 hours]
- Urine sediment abnormalities as markers of kidney damage
- Renal tubular disorders
- Pathological abnormalities detected by histology or inferred

- Structural abnormalities as marker of kidney damage as detected by imaging
- History of renal transplantation

CKD STAGING will be done based upon GFR as described by KDIGO 2012 clinical practice guidelines.

CKD STAGE	DESCRIPTION	GFR(ml/min/1.73m^2)
1	Kidney damage with normal GFR	≥90
2	Kidney damage with mild GFR	89-60
3A	Mild to moderate GFR	59-45
3B	Moderate GFR	45-30
4	Severe GFR	30-15
5ND	Kidney failure	<15 and not on dialysis
5D	Kidney failure	On dialysis

GFR will be calculated by CKD-EPI creatinine equation.

Group 2: Chronic kidney disease patients on maintenance haemodialysis/CAPD for atleast 3 months [stage 5D] will be taken in this group.

CKD patients presenting with respiratory complaints such as dyspnea, cough, orthopnea, PND, chest pain, wheezing, haemoptysis, etc in both the groups will be evaluated. Detailed history will be taken and complete physical examination will be carried out.

Investigations such as CBC, RFT, LFT, Calcium, Magnesium, Phosphorus, Urine analysis etc will be noted. Relevant investigations such as chest roentgenogram, computed tomography chest, pleural fluid analysis, 2D echo,

sputum analysis, pulmonary functions test, BNP levels etc. which were done to establish the respiratory diagnosis will be noted.

The spectrum of pulmonary involvement will be compared between patients of CKD not on haemodialysis and those who are on maintenance haemodialysis. Frequency of haemodialysis advised, actual frequency of haemodialysis done, compliance of haemodialysis and any complications which occurs during haemodialysis will be noted.

7.1 Source of Data

Data will be sourced from the indoor patients admitted in the Department of Medicine, Department of Nephrology, Department of Pulmonary medicine and it's other allied specialties of Medicine, Dayanand Medical College & Hospital, Ludhiana during 15 months period.

7.2 METHOD OF COLLECTION OF DATA

Patient's history, clinical examination and all relevant clinical investigations done will be noted as per detailed performa.

INCLUSION CRITERIA

- Diagnosed patients of chronic kidney disease [stage 3, stage 4, stage 5D] (based upon KDIGO 2012 clinical practice guidelines) not on haemodialysis and patients of chronic kidney disease on maintenance haemodialysis/CAPD [stage 5D] presenting with respiratory complaints and in whom the respiratory diagnosis is established during hospital stay will be enrolled for the study.

- Age 18 years or more.

EXCLUSION CRITERIA

- Those who are not willing to participate in the study.
- Age less than 18 years.
- Patients of CKD who have undergone renal transplantation.
- Pregnant women.

DURATION OF STUDY – 15 months period [01/01/2019 to 31/03/2020]

OUTCOME- The outcome will be recorded as under:

Outcome of the patient at the end of the hospital stay-Discharge/DAMA/Death

STATISTICAL ANALYSIS- Data will be described in terms of range; mean ±standard deviation (± SD), median, frequencies (number of cases) and relative frequencies (percentages) as appropriate. All statistical calculations will be done using SPSS (Statistical Package for the Social Science) SPSS 21 version statistical program for Microsoft Windows.

7.3 DOES THE STUDY REQUIRE ANY INVESTIGATIONS OR INTERVENTIONS TO BE CONDUCTED ON PATIENTS OR OTHER HUMANS OR ANIMALS? IF SO, PLEASE DESCRIBE BRIEFLY.

This study does not require any intervention to be conducted on the patient. Only those investigations are which are already done for diagnosis and clinical management of the patient will be noted.

7.4 HAS ETHICAL CLEARANCE BEEN OBTAINED FROM YOUR INSTITUTION IN CASE OF 7.3?

Attached along with it.

8. LIST OF REFERENCES

1. Sharma A, Sharma A, Gahlot S, Prasher PK. A study of pulmonary function in end-stage renal disease patients on hemodialysis: a cross-sectional study. Sao Paulo Med J. 2017;135(6):568-72.
2. Rackow EC, Fein IA, Sprung C, Grodman RS. Uremic pulmonary edema. Am J Med. 1978;64:1084-8.
3. Pierson DJ. Respiratory Considerations in the Patient with Renal Failure. Respir care. 2006;51:413-22.
4. Rocker GM, Morgan AG, Pearson D, Basran GS, Shale DJ. Pulmonary vascular permeability to transferrin in the pulmonary oedema of renal failure. Thorax. 1987;42:620-3.
5. Nidus BD, Matalon R, Cantacuzino D, Eisinger RP. Uremic pleuritis - a clinico-pathological entity. N Engl J Med. 1969;281(5):255-6.
6. Hussein MM, Mooij JM, Roujouleh H. Tuberculosis and chronic renal disease. Semin Dial. 2003;16(1):38-44.
7. Chou CY, Wang SM, Liang CC, Chang CT, Liu JH, Wang IK, et al. Risk of Pneumonia Among Patients With Chronic Kidney Disease in Outpatient and Inpatient Settings A Nationwide Population-Based Study. Medicine (Baltimore). 2014;93(27):e174.
8. Guo H, Liu J, Collins AJ, Foley RN. Pneumonia in incident dialysis patients—the United States Renal Data System. Nephrol Dial Transplant. 2008;23:680-6.
9. Zoccali C, Mallamaci F, Tripepi G. Sleep apnea in renal patients. J Am SocNephrol. 2001;12(12):2854-9.

10. Kraus MA, Hamburger RJ. Sleep apnea in renal failure. Adv Perit Dial. 1997;13:88-92.

11. Faubert PF, Shapiro WB, Porush JG, Chou SY, Gross JM, Bondi E, et al. Pulmonary calcification in hemodialyzed patients detected by technetium-99m diphosphonate scanning. Kidney Int. 1980;18(1):95-102.

12. Ullmer E, Borer H, Sandoz P, Mayr M, Dalquen P, Soler M. Diffuse pulmonary nodular infiltrates in a renal transplant recipient: metastatic pulmonary calcification. Chest. 2001;120(4):1394-8.

13. Moger V, Arun BS, Suresh H, Sagar Reddy SL. A study of respiratory manifestations in chronic kidney disease. International Journal of Biomedical Research. 2017;8(02):70-4.

14. Mukaia H, Mingb P, Lindholma B, Baranya P, Stenvinkela P, et al. Lung Dysfunction and Mortality in Patients with Chronic Kidney Disease. Kidney Blood Press Res. 2018;43:522-35.

15. CuryJL, Brunetto AF, Aydos RD. Negative effects of chronic kidney failure on lung function and functional capacity. Rev Bras Fisioter. 2010;14(2):91-8.

16. Headley CM, Wall BM. Flash Pulmonary Edema in Patients with Chronic Kidney Disease and End Stage Renal Disease. Nephrol Nurs J. 2007;34(1):15-26.

17. Bush A, Gabriel R. Pulmonary function in chronic renal failure: effects of dialysis and transplantation. Thorax. 1991;46(6):424-8.

18. Munda R, Alexander JW, First MR, Gartside PS, Fidler JP. Pulmonary Infections in Renal Transplant Recipients. Ann Surg. 1978;187(2):126-33.

19. Yousef AI, Ismael MF, Elshora AE, Abdou HE. Pulmonary tuberculosis in patients with chronic renal failure at Zagazig University Hospitals. Egyptian Journal of Chest Diseases and Tuberculosis. 2014;63:187-92.
20. Pabst S, Hammersting C, Hundt F, Gerhardt T, Grohé C, Nickenig G, et al. Pulmonary Hypertension in Patients with Chronic Kidney Disease on Dialysis and without Dialysis: Results of the PEPPER-Study. PLoS One. 2012;7(4):e35310.
21. Yilmaz S, Yildirim Y, Yilmaz Z , Kara AV, Taylan M, Demir M, et al. Pulmonary Function in Patients with End-Stage Renal Disease: Effects of Hemodialysis and Fluid Overload. Med Sci Monit. 2016;22:2779-84.

PROFORMA

SERIAL NO.-

NAME-

AGE- SEX-

MRD NO.- ADMISSION NO.-

DATE OF ADMISSION-

CONTACT INFO-

Etiology of CKD-

Duration of diagnosis of CKD-

GFR of patient-

Stage of CKD-

Duration of dialysis-

Mode of dialysis- Haemodialysis or CAPD

Frequency of dialysis advised-

Number of hours of dialysis/week advised-

Compliance of dialysis - yes/ no

If no, Actual frequency of dialysis-

Actual number of hours of dialysis/week-

Any intradialytic complications- yes/ no

(hypotension, arrythymia etc)

Any other comorbid conditions-

RESPIRATORY COMPLAINT- **DURATION**

Dyspnea	yes/no
Chest pain	yes/no
Cough	yes/no
Sputum production	yes/no
Hemoptysis	yes/no
Fever	yes/no
Pedal edema	yes/no
Hiccough	yes/no

Any other respiratory complaint

Any other systemic complaints

Signature of Candidate **Signature of Supervisor**

PAST MEDICAL HISTORY-

TREATMENT HISTORY-

PERSONAL HISTORY-

GENERAL PHYSICAL EXAMINATION-

APPEARANCE- SENSORIUM-

VITALS-

HR- RR- BP- TEMPERATURE-

PALLOR- ICTERUS- CYANOSIS- EDEMA-

JVP- CLUBBING- LYMPHADENOPATHY-

SYSTEMIC EXAMINATION-

CNS-

CVS-

P/A-

RESPIRATORY-

- INSPECTION:
- PALPATION:
- PERCUSSION:
- AUSCULTATION: AIR ENTRY-

  TYPE OF BREATHING-

  CREPTS/RHONCHI-

  VOCAL RESONANCE-

Signature of Candidate **Signature of Supervisor**

INVESTIGATIONS-

DATE			
Hb (g/dl)			
TLC (X 10^3/ul)			
DLC			
PLATELETS (X10^3/ul)			
ESR			
GLUCOSE (mg/dl)			
UREA (mg/dl)			
CREATININE (mg/dl)			
Na/K/Cl (mEq/l)			
Ca/PO4/Mg (mg/dl)			
T.BILIRUBIN (mg/dl)			
D.BILIRUBIN (mg/dl)			
SGOT (U/L)			
SGPT (U/L)			
ALP (U/L)			
T.PROTEIN (g/dl)			
ALBUMIN (g/dl)			
PTI-INR			

URINE ANALYSIS:

- Proteins-
- Glucose-
- Microscopy-

Signature of Candidate **Signature of Supervisor**

CHEST X-RAY FINDINGS:

- Cardiomegaly-
- Pleural effusion-
- Pulmonary edema-
- Cavitary lesion-
- Pleural thickening-
- Pulmonary hypertension-
- Pulmonary calcification-
- Consolidation-
- Pulmonary infilterates-
- Interstitial lung disease-
- Others-

SPUTUM ANALYSIS:

- Gram staining-
- Culture sensitivity-
- AFB smear-
- Nocardia-
- Fungus smear-
- CBNAAT-
- Malignant cytology-

PLEURAL FLUID ANALYSIS:

- Cytology-
- Biochemistry-
- ADA-
- LDH-
- Culture sensitivity-
- CBNAAT-
- AFB smear

CT CHEST FINDINGS:

- Pleural effusion-
- Pulmonary edema-
- Cavitary lesion-
- Pleural thickening-
- Pulmonary hypertension-

Signature of Candidate **Signature of Supervisor**

- Pulmonary calcification-
- Consolidation-
- Pulmonary infilterates-
- Interstitial lung disease-
- Others-

PULMONARY FUNCTIONS TEST:

		PRE			POST	
FORCED VITAL CAPACITY	Predicted	Observed	%Predicted	Observed	%Predicted	%Change
1.FVC(L)						
2.FEV1(L)						
3.FEV1/FVC(%)						
DLCO						
1.Vol insp (L)						
2.Tlco(ml/mmHg/Mi)						
3.Kco (DLCO/L)						

2D-ECHO:

BNP LEVELS:

ANY OTHER INVESTIGATIONS DONE:

DIAGNOSIS OF PULMONARY DISEASE-

OUTCOME (AT THE END OF HOSPITAL STAY)-

Signature of Candidate **Signature of Supervisor**

INFORMED PATIENT CONSENT

Date: _____

I.....D/o, W/o, S/o.....

R/o..... am willing to participate in the study **"SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE"**. I am ready to participate in study on my own. I affirm that I have not been given any financial incentive and no pressure has been put on me to give this approval. The purpose of this research has been explained to me and I believe that it is for the benefit of science and mankind. I have been explained about the risks in this research and I understand that the risk is very minimal. I have been explained the method of participating in this research work.

I can choose to opt out of this research at any time and my opting out will not have any effect on my treatment.

.....
Signature of the Witness

Name:

.....
Signature of the patient

Signature of Candidate

Signature of Supervisor

मरीज अनुमति फार्म

तिथि _____

मैं _____ पत्नी/पुत्र/पुत्री _____ निवासी _____ इस शोधकार्य "SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE" में भाग लेने के लिए सहमत हूँ। मैं इस शोधकार्य में भाग लेने के लिए अपनी स्वेच्छा से तैयार हूँ। मैं पुष्टि करता/करती हूँ की यह स्वीकृति देने के लिए मुझे कोई आर्थिक प्रलोभन नहीं दिया गया और न ही दबाव डाला गया है। मुझे इस शोधकार्य का उद्देश्य स्पष्ट कर दिया गया है और मुझे यह विश्वास है की यह विज्ञान और मानवता के लाभ के लिए है। मुझे इस शोधकार्य में होने वाले जोखिम के बारे में समझा दिया गया है और मेरी समझ में यह जोखिम बहुत मामुली है। मुझे इस शोध कार्य में भाग लेने की विधि को समझा दीया गया है।

मैं इस शोधकार्य में भाग लेने के सम्बन्ध में किसी भी समय अपनी अस्वीकृति व्यक्त कर सकता/सकती हूँ और मेरे अस्वीकृति व्यक्त करने का मेरे इलाज पर कोई प्रभाव नहीं पड़ेगा।

_____
गवाह के हस्ताक्षर
नाम:

_____
रोगी के हस्ताक्षर/अंगूठे का निशान
नाम:

_____
अन्वेषक के हस्ताक्षर

_____
विद्यार्थी के हस्ताक्षर

ਮਰੀਜ਼ ਰਜ਼ਾਮੰਦੀ ਫ਼ਾਰਮ

ਮਿਤੀ_____

ਮੈ_____ਪਤਨੀ/ਪੁੱਤਰ/ਪੁੱਤਰੀ_____

ਵਾਸੀ _____

"SPECTRUM OF PULMONARY INVOLVEMENT IN PATIENTS OF CHRONIC KIDNEY DISEASE" ਤੇ ਚਲ ਰਹੀ ਖੋਜ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਰਜ਼ਾਮੰਦ ਹਾਂ। ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਮੈ ਆਪਣੀ ਮਰਜ਼ੀ ਨਾਲ ਤਿਆਰ ਹਾਂ। ਮੈ ਇਹ ਦਸਣਾ ਚਾਹੁੰਦਾ ਹਾਂ/ ਚਾਹੁੰਦੀ ਹਾਂ ਕੇ ਇਹ ਰਜ਼ਾਮੰਦੀ ਦੇਣ ਵਾਸਤੇ ਮੈਨੂ ਕਿਸੇ ਵੀ ਤਰਾਂ ਦਾ ਲੋਭ-ਲਾਲਚ ਨਹੀ ਦਿੱਤਾ ਗਿਆ ਅਤੇ ਨਾ ਹੀ ਕੋਈ ਦਬਾ ਪਾਇਆ ਗਿਆ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਦਾ ਮਨੋਰਥ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਭਰੋਸਾ ਦਵਾਇਆ ਗਿਆ ਹੈ ਕੇ ਇਹ ਖੋਜ ਵਿਗਿਆਨ ਅਤੇ ਮਾਨਵਤਾ ਦੀ ਭਲਾਈ ਲਈ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਵਿਚ ਹੋਣ ਵਾਲੇ ਖਤਰੇ ਬਾਰੇ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਯਕੀਨ ਹੈ ਕੇ ਇਹ ਖਤਰਾ ਬਹੁਤ ਮਾਮੂਲੀ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਦਾ ਢੰਗ – ਤਰੀਕਾ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ।

ਮੈ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਬਾਰੇ ਆਪਣੀ ਰਜ਼ਾਮੰਦੀ ਕਿਸੇ ਵੀ ਸ

ਮੇ ਵਾਪਸ ਲੈ ਸਕਦਾ ਹਾਂ/ ਸਕਦੀ ਹਾਂ ਅਤੇ ਮੇਰੀ ਰਜ਼ਾਮੰਦੀ ਵਾਪਸ ਲੈਣ ਦਾ ਮੇਰੇ ਇਲਾਜ ਤੇ ਕੋਈ ਅਸਰ ਨਹੀ ਹੋਵੇਗਾ।

_____ _____

ਗਵਾਹ ਦੇ ਹਸਤਾਖਰ ਮਰੀਜ਼ ਦੇ ਹਸਤਾਖਰ

_____

ਨਿਰੀਖਕ ਦੇ ਹਸਤਾਖਰ

ਸਿਖਿਆਰਥੀ ਦੇ ਹਸਤਾਖਰ